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AMIGA

MAG A

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Editorial



A new owner has appeared from nowhere, but will this give the Amiga a launch pad for the future, or just another round in the game of corporate pass-the-parcel? Check the news feature and make up your own mind. In the mean time, get your AT200 souped up with Zorro slots (page 36) and why not get yourself a cheap-ish CD-ROM writer while you're at it (page 38)?

We've also got a book test of PCs and also PC-task, with the desirable Picasso II! sharing top billing in the reviews section. On the games front we've unearthed a healthy selection of forthcoming attractions and there's still all your usual favourites to get stuck into as well.

Tony

Tony Horgan, Editor

Features

24 CD-R Evolution

You can cut CDs with your Amiga now for just a few hundred quid. There's even software to do just that on this month's CD! We investigate the many possibilities of this exciting new technological advance.



30 Build Your Own Tower - part 3

Introducing Zorro! As we conclude our guide to transplanting an AT200 into a tower system, we get serious with a look at how you can add Zorro power, and the endless new avenues that will be open up for you.



Contact

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Special News Report

18 Gateway Amiga Update

We broke the news exclusively last month, now we follow up with a close look at the company behind the cover print and the golden G. What plans have they announced for the new Amiga International, and how is this acquisition likely to affect us all? Our top reporters hit the road to bring home all the facts and convey some opinions on the most significant deal for years.



Cover Disks & Super CD-ROM



8 Pro Page 4.1

You need it right: the classic Amiga ODP system is joined with this issue of CD Amiga, with the complete program on both CD and floppy disk editions. This is professional desktop publishing at its best.

8 Pro Page 4.1 extras & The Sun

Bringing up the rear of ProPage with some additional files and support data, both floppy and CD editions also come complete with the embowering cerebral about 'em up The Sun.

12 Super CD-ROM 11

Back once again, this time compatible even with luggish CD file systems, Super CD-ROM 11 has over 100MBs of software, plus two totally exclusive audio tracks to be played on any standard hi-fi CD player. Utilities, mods, graphics, games, demos, it's all here...

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The

Sun



(or You Cannot Be Sirius)



Maybe it was something we ate, but we think this game is one of the freshest, most original pieces of PD for ages.

Join the Sun-Chariot of Amun-Re as it journeys across the Duat, the ancient sky-realm of ancient Egypt, in a game which is as relaxing as Tetris and as manic as Llamatron.

Getting started

Stick the disk in your drive and boot up. After a few moments quotations from Ecclesiastes and the Pyramid texts appear on the screen. Read them carefully, they are very important. Now press fire, watch the listless this page just long enough to see it go inertial, and press fire to play. The icons at the top can be used to get instructions, choose music or FX, or play the game. Check out the readme on this disk from Workbench to see how to install it to hard drive.



I was scratching our heads trying to decide what to put on the games disk this month.

There were a few very nice looking things knocking about, but they were all large and we needed something small enough to allow five pages to fit. We were sitting in front of this manic little puzzle game that got sent into the PD department and running through all the options. Browsing away at multicoloured glyphs, we had to search them all one by one. Disappointing! No games were small enough that, with any good this month, what could we... wait a minute!

This game is great. Not like over your life sort of great, just give it a blast every now and again and you'll never get bored of it again. Author Mark West of *old software* disagrees, he thinks it's not too hot. But then he wrote this thing, so he must be crazy.

You are the Sun, and about you orbit eight planets, each represented by a different glyph. By moving the joystick left and right, the planets are made to orbit around you. Every time you shoot

a glyph, it changes, passing through the cycle Hand, Kiki, Cat, Dog, Lion, Rabbit, UFO, Eru. In the top right corner of the screen you will see a target glyph. To win the round, you must turn all of the planets into the same target glyph simultaneously.

If this sounds easy, it is because I have not yet told you that while all this is happening, the planets are drifting towards you, and dragging you down towards the horizon. If the sun sets, the game is over! Shooting the glyphs pushes them away from you temporarily. The closer the planets get to the sun, the quicker it sets, so you will often find yourself forced to shoot glyphs you have turned into the target glyph before you are ready. If you shoot one which is the same shape as the target glyph, it and any others of that shape will change to a random glyph and the Sun will also back up a little, depending on how many glyphs currently match the target.

There is music - the baroque game, with glyphs - but you'll just have to read the instructions. It's not as complex as it sounds. This of the old vector-based coin-op Tempest and you'll get the gist. ■

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DISK 158

Pro Page 4.1



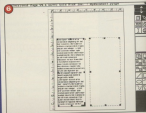
The Amiga's flagship DTP application comes your way this month exclusively with CU Amiga. Introducing... ProPage 4.1.



Over the years, Professional Page has been the choice of many leading desktop publishers. Amiga magazines like Just Amiga Monthly, Amiga Review and AmigaZen are all produced with Professional Page. In France, one of the leading glossy Amiga magazines, Amiga News is

also produced using this great application. It's that good, and now you can join in the fun and use this great program for your own publishing needs.

Professional Page 4.1, affectionately known as ProPage, is a page layout program published by Gold Disk (now Definit), and allows you to create everything



It's

Good

to talk

Isn't it Bob?

▲ The quality and clarity of output from ProPage is limited only by your output device!

from a letterhead to a book. The program uses a custom interface, one that is very UnAmiga like but is also very quick, especially when run in black and white.

The concept

The concept behind using ProPage is based on boxes for all your elements. Take text for example. Promes containing text can be linked so the text flows from column to column and page to page. These columns can be different sizes. There is also a powerful feature with "Genies" letting you automate many functions. Just one example is a genie that creates a drop shadow. There are many more genies that come with the program as well as a disk containing even more genies from the "genies" Don Cox, available from LH Publishing.

Printing using PostScript or non-PostScript printers is another highlight with this great piece of software. ProPage will work with both TurboPrint and Studio II as well other normal Amiga printer drivers. One interesting function is a set of off-set paddings in the Non-PostScript printer requester which lets you position the page in the right place on your paper. Those wishing to use PostScript will find support for black and white printing as well as spot and process colour separations. To help make creating the text for your document easier, ProPage comes with its own text based word processor called Jell (Jelly Editor) and for the colour con-

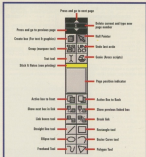
science, a Pantone colour library with thousands of ready made colours. As you can see, this is a very powerful program. In short, Professional Page will help you create pages that look the best now.

Getting started

When you run ProPage for the first time, it will ask you to select a screen-mode for the program. After that's done, the program will load but before you can start doing the business, you will need to create a page or two. To do this, choose the "CreateFrom Default" item from the Page menu (second menu from left). Turn off the Automatically Link Columns button and click OK. You now have a blank single page document. It's best to save it from the project menu at this point. When giving documents a name, it's advisable to use the extension ".page" so you know it's a ProPage document. Now that you have saved your page, you can continue creating your document, pausing every now and then to press the Right Amiga5 keys so that your document is again saved to disk.

Item boxes

All objects in ProPage must be placed into a box. This has a num-

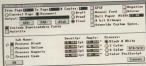


ber of advantages. Unlike QuarkXPress, where you have different boxes for text and graphics, in ProPage the same type of box is used for both text and graphics, with ProPage automati-

cally recognising what type of element you have placed in the box. This is important to mention because if you have text in a frame, when you double click on it will let you alter the text position while if it's a graphics in the box, ProPage lets you change the scale of the image inside the box.

Let's tackle putting text in a box first. Before you can place text on your page, you need to create a box for it. To do this you





▲ ProPage is a very powerful application when it comes to ProPaint output. It supports colour separation, vector colour control, 32-bit images, downloadable fonts and more.

select the Box tool and create a box on the page. If you can't see the box after you create it, then press **On-8** and Box Outlines will be turned on (or OFF if they were already on). This box can now be resized and moved anywhere on the page. To place text into this box, make sure you have a text file handy to import. The text should be ASCII. Select the first tool and click inside that box, choose "Project/Import/Text". Select an ASCII text file to import, and when asked what file to use, choose ASCII. To paste the text into the box, press **F1**.

Linking boxes

Before we go on, use the Null Pointer to grab the box handles and resize the box. You can see that the text refuses to adjust to a different size frame. With luck, the text file you have used will be a rather large one and will still have some text left over. You can tell this by an upside down L in the bottom right-hand corner of the text frame.

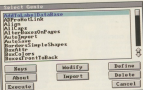
To get this text to flow into another text frame, first use the Box tool to create a second text box anywhere on the page. Using the Null Pointer, click inside the first text box to make it active. The dotted box outline will now be solid. Then select the Link Boxes tool from the toolbar and click once in the second frame. The text will flow from one box to another. If there is still more text left, you either reduce the text size or make another page.

Adding pictures

A page with no pictures is like a cloudy day, grey and very dull, being some sunshine to your pages by adding a picture. This requires you to first create a box to hold the graphic. Once you have done that, select the Null Pointer, make sure your empty box is active and then choose Project/Import/Graphic. Start off by choosing an EPS, GIF or ProDraw clip art and when done, click OK. In most cases, the graphic will not fit the box. To correct this, you can either place the graphic on a file like the box or just inside the box so it is nice and tight around the graphic.

Pictures can be scaled by pressing the **Alt** key and using the Null pointer to stretch the box containing the graphic. ProPage supports many graphic formats such as EPS, GIF, BMP, PCL, PDS and EPS and of course, ProDraw clip art. If you have ProDraw you can send images between ProDraw and ProPage (which have to be running) using a toolbar of Right Arrows.)

If you want to view those images in colour and you have an AGA machine, then switch screen mode (Preferences menu) to 256 colours. ProPage, like most Amiga programs, works slower in this mode but is certainly a lot prettier. A point worth noting is that on an A44 Amiga running stockbench 3.1, you will get ghosting of requesters in 95 colours. This is



▲ Once colours in ProPage are called Series and can be used by choosing the script required and then clicking on the Format button.

due to some tweaking of the 3.1 ROMs. On an AGA Amiga running 3.1, ProPage wants line in 2, 16 and 256 colours. If you have AGA and 3.1, then you will only be able to run in 2 or 256 colours. On ECS Amigas (non-AGA), using 3.1 ROMs and no graphics card, you will only be able to run in 2 colours.

Printed output

After you have finished your page, you'll want to print it and this is pretty straight forward in ProPage. The printer driver used is the one you have set in Printer Prefs. If you are using Studio II or TurboPrint, it will work with these at will.

The short cut to printing to a non-ProDraw printer is **Right Amiga-M** while the short cut to printing to a ProDraw device is **Right Amiga-P**.

ProPage uses both Amiga bitmap and CompuGraphic fonts. For the best quality use CompuGraphic fonts of which there are plenty about. To add new CompuGraphic fonts, you need to copy those files for each font into a directory called CGFonts which can be found in the PPage000 drawer. The files required are in the following extensions: ".af", ".metric" and ".afm". An example of this would be "Times.af", "Times.metric" and "Times.afm". After you have added the fonts, you need to run a program called CG Update which is in the PPage000 directory.

Missing fonts?

A common problem for ProPage beginners is the program can't find its fonts. In order for ProPage to know where its CGFonts are, it needs two things to be present. One is an assign in the file, which lists ProPage where it can find the drawer called CGFonts. The other



key attribute is found in a file called "PPage000" which resides in the 5 directory, in that file is a line beginning with PF and then a space and then the path to where the CGFonts can be found. If this path is not right, you can correct it with a text editor such as ProPage's Article Editor (AE).

There's all we've got room for this month. Larry Hickmott's regular DTP series will be covering some further aspects of the program over the coming months. If you need more information immediately, check the panel below for details on how and where to order the full manual.

Manual offer

To get the best from the many and varied powerful features of ProPage 4.0, such as games and text tricks, you could do with getting the full instruction manual, the additional manual book or both together.

Separately they cost £19.99

each plus P+P or you can get

both, plus a set of address disks for

£24.99. A CD version of this

bundle with even more software

is available for £29.99.

Orders are to be made out to

LH Publishing, 12 Gairloch Ave,

Wetherby, WGS 20N, United

Kingdom.

Please add postage of £3 in the

UK, £5 for Europe and £8 for

the rest of the world. For further

details, telephone

LH Publishing during office

hours on (+44) 01936 300 238.



▲ Style tags enable you apply many attributes to a piece of text in the one operation. ProPage also supports paragraph style tags.

CD-ROM

Super CD-ROM 11



Welcome to CUCD11. An even spread of software through all the several departments means that CUCD11 has something for everyone. This is one of the best CUCDs yet!

CUCD11 can be loaded from a CD32 or an A1200/3000 with adequate CD32 emulation. To allow you to use this CD just as well when you boot up from your own Workbench, we have included the INITCD icon, which will make various settings to allow software to run from the CD. It also initiates MUI and the Nextcom systems - so don't be surprised if the look of your Workbench suddenly changes. It is all temporary and can be reversed by clicking on INITCD again. To help you find your way around the CD, there is a DOCS.GUIDE, which connects you to pretty much every text document on the CD, and INDEX, a search tool which allows you to search the CD for a text string. Like everything on the CD, click on them to activate.

Making things work

Click on a picture icon and a viewer loads up and displays the image. Click on a mod and a modplayer pops up and plays the tune. As much as possible of the software will run from the CD as well. However, some things on the disc won't run when you click on them. There are several reasons for this. If it is a picture or animation you may not have enough memory. If it is a demo it may clash with your system. If it is a utility it may need to be installed and so on. If a program doesn't activate, and no error message comes up, read the documentation.

It can get complex with games and demos. Many are written in an OS illegal fashion, which means that they may not work on every set up. Run the bare minimum Workbench and try them. If this still doesn't work, boot with no startup sequence and activate the program from the shell. You will need to know AmigaDOS well for this.

The new CUCD-ROM 11 is one of the best CUCDs yet, complete with ProPage 4.1 and two audio tracks.

On the disks

Professional Page 4.1

The full version of the top quality commercial Aviga DSP package can be found here. Run it from CD or drag it onto your hard drive to install. See the full instructions on page 8.



The Sun

This quality but fun amateur game was programmed by Matt West in JADES Pro. Also see the game instructions on page 8.

The audio tracks

There are two audio tracks on the CD this month, which can be played on any hi-fi CD player. Don't play track 1, which is data.

Track 2 is a rock from James Bernard's band, Inhaber. The song, entitled 'Inhaber', comes from their album, 'Inhaber' (released on the Source label, cat. no. UL 3008), which 'Famag' magazine described as "... rock you can't headbang to and techno you can't dance to".

Inhaber is a set up consisting of an Atari2 running the CU Amiga cover disk of Commodore version 5 and a MogulSound sampler, Atari 61 and 64 keyboards, an Altec B-shaven mixer, a DTC-600 DAI recorder and various guitars and effects units.

Track 3 is called 'Caterpillar', and is by our fearless editor, Tony Horgan. Read all about it in Sound Lab on page 84.

What's in your drawers?



Roots: The root directory of CUCD11 is set up like a Workbench disk, with all the standard directories—C, Devs, Libs, Fonts and so on. You will find that these directories are all nicely packed full of files you can use on your own Workbench if you want.

There are plenty of libraries, fonts and so on. If you want to copy anything across to your own system, just use a directory utility such as Directory Opus. **The Name:** Click to play! **ProFinger:** Just drag the drawer

and click on "Make ProFinger". **System:** Detracker, Hippopotamus, GniPlay, Newsroom, Raptor, Race, Viewer, ViewS and more have moved into a new drawer called CDsupport in the System directory. Mail and the standard Workbench system files remain in the parent. **Tools:** A fully-featured Workbench tools drawer. **Perfs:** Standard Preferences drawer with Newton prefs. **Utilities:** Multiview, Clock, Toolbars and some Newton utility.



▲ These pics are in the CDGraphicsPro drawer. The big picture is called stardust and it is an image 4.0 created by Ben Bright, a rather nice 128 x 640 pic.

WWW: Game versions of the major Web browsers, Browse 1.1 and Voyager NG are here plus the brand new Amiga 3.0 demo. There are also pages to browse without a modem!

Check out CU Amiga's brand new Web site plus the usual Amiga related and general sites. All you have to do is click on the Show WWW icon and then select which browser you want to use when asked.

CUCD: Here's where you'll find the really good stuff.

Online: For gamers' heads.

We've got the latest version of the Microdon II E-mail and news package, a demo of Terra

TOP and the unregistered Miami II, accompanied by Miami Speed Master.

CD-ROM: Due to the problems with last month's CUCD10, we've got a special installer for AmiCDP2. There's also the contents of the latest AmigaCDs, Magic, RMP V3 and even more CDROMs.

Graphics: For artists, renderers and tinkers alike, we've got a collection of CyberGraphic goodies, SuperView-160, MPEG video players and animations and yet more from collections!

Programming: Coders ahoy! The complete Object Kit for Amiga programmers, the CyberGraphic

developers kit, latest Source C++ demo and a lot more.

Demos: Another burlier collection of demos to amuse and amaze your friends. The central feature this month is our new installer of the awesome and popular DooWorld demo.

Information: Lots of hard core technical information can be found here in the form of the A1200 and A4000 hardware

guides. There's also an AmigaGuide to Startrek and an AmigaGuide to Starlink. A lovely bit of bed time reading.

Utilities: Utilities galore with the excellent SystemInspector, PC2Amiga with the latest Databases, Screen is to test.

Plenty more here to help your Amiga be more productive.

Readers: We've got a great collection of readers pictures sent in from around the world. If you fancy being in here yourself, don't delay, send your disks to us today!

Games: More fun joystick waggling to be had in here. Games of all styles can be found but be sure to check out the latest preview of the forthcoming Tropic II 3D game.

Magazines: To tie in with current and past Magazine features, we've got the latest version of the AVM file package and demos of the CD-R writing software, MakeCD 2.2 and Burn II. Not forgetting the top secret Genetic Species preview either.

Reviews: Check out the comprehensive demo of the top class spreadsheet SuperCalc 4, plus the IP CD-ROMs.

Sound: The latest version of the MP3GA 2.4 MP3 audio layer 3 player. More MP3 tunes and some top modules sound off this month's audio test.

If your CUCD does not load

If your CD does not load contact Diagonosis on 01481 616786. If they advise that the CD is faulty send it along with a SAE to: CU Amiga Magazine Box Returns, Diagonosis, 7 Willow Court, Bourton Industrial Park, Bourton on the water, Gloucestershire GL54 2SD.

Please note that some CDs will not auto-load on systems other than CDROMs, so try loading it from Workbench first.

Join Us On The Net Right Now!

AMIGA
Magazines
Online



Bring yourself bang up to date on all things Amiga courtesy of our brand new CU Amiga Magazines web site. We've totally redesigned the whole site so that now it's bigger, better, faster and even more fun than ever before.

For those who don't yet have Internet and world wide web access, we've included the new incarnation of the site on this month's CD edition of the magazine, so go and take a look around it right now.

You'll find plenty to keep you amused and informed, including news, features, downloadable software and plenty of links.

Find out about forthcoming issues, order back issues, take advantage of our new subscription offers, chat to the CU Amiga team and check out this month's Art Gallery images at full screen size. This is just the beginning, and it's only going to get bigger and better. So what are you waiting for?

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News

SPECIAL REPORT

Gateway to the Millennium

On March 27th 1997, American PC retail giant Gateway 2000 put in a bid for Amiga Technologies. This bid has now been passed by the German regulatory body. Gateway 2000 are now, officially, owners of the Amiga.



A press conference is scheduled for early May 1997 in which it is hoped Gateway 2000 will publicly announce their future plans for the Amiga range. As we reported exclusively in our additional news floor last month, Gateway 2000 are the new owners of the Amiga, but the big question is what they plan to do with it. At the time of going to press, they were staying resolutely tight-lipped, stubbornly obeying strict orders from the top to say nothing, not even rising to the inevitable bait offered by the info-hungry Amiga press, and users, testing for reactions to suggested moves they might make.

What we do know is that Amiga Technologies will merge into Amiga International, remaining a separate company but owned by Gateway 2000.

Amiga International is to be headed by Peter Tschötschke, former boss of Amiga Technologies. Tschötschke, who has been at the helm during the period since Excom's collapse last year, has been involved in the Amiga since the Commodore era and is considered by the industry to be a safe pair of hands. Internet users have noticed that the Amiga Technologies web site has quietly changed its name already.

Gateway have been rather quiet on the layout since the news hit,

preferring to avoid making any major press announcements until they have some good idea of what they have bought. After the villageiness of certain other rather less professional bidders to make bold and rather rash press announcements, the international Amiga community has been rather prone about the silence from Gateway 2000. This silence, rather than suggesting any kind of complexity, is the silence you would expect from a major company not willing to make bold state-

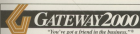
ments before they are sure where they are going.

When questioned on the point during a questions and answers session at the Information Technology Expo held in Seattle on April 2nd, Gateway's CEO Rick

Big fish eaten by bigger fish?

In a weird, fish twist of the kind that only happens in real life, some days after Gateway bought out the Amiga, the information technology business world was buzzing with rumors that Gateway itself was going to be bought out by Compaq, the world's biggest computer retailer. Rumours suggested that Compaq were looking to use some of their \$2.5 billion cash reserves in a hostile takeover of one of their fastest growing rivals. The rumours lead to heavy trading of Gateway shares, and a significant increase in the share price during a period in which IT shares have generally not been performing strongly.

Before everyone panics and stories of "the Curse of Amiga" become rife, we should issue a note of caution. Rumors of this nature are the life blood of the markets, and are far more common than actual buyouts. Officials from neither Compaq nor Gateway were commenting on the rumors, but it seems more likely that Compaq would use that cash reserve on a company that was a little less highly valued in the market.



I am convinced and know that Gateway 2000 will give Amiga International a very good future.

Heri Techterich, manager of AI.

Studer explained that at that point it was not possible to be specific, and went on to describe the purchase as "... an equivalent of a large box marked 'stuff' ... and pointed out that until the German regulators passed the acquisition, they wouldn't know for sure what they would find of use in that box. Is a further comment which can only come as a reassurance to the Amiga community, he is quoted giving as a reason for the buyout, "Gateway could not let a technology like that die".

Amigas on sale

Peter Techterich has announced that the most immediate sign of the rebirth of the Amiga is that Amigas will soon be on sale through AT200s but some G4000s. It's likely that this represents a sell-off of existing stock. Pricing at the moment looks to be slightly cheaper than the old Ecom prices: A1200s at around £250 plus VAT, A1200GPs at £285 plus VAT. Distribution will be through the traditional Amiga channels - there are currently no plans to drop Amiga through Gateway's own distribution system.

Phase 5 Co-operation?

It seems likely that Phase 5 and Amiga International will be linking up in some form, after the close ties that were beginning to form just before the demise of Ecom, the Amiga's former owner.

In their future, Phase 5 have a relatively cheap instant upgrade to the existing Amiga technology in the form of their PowerPC architecture. If Gateway are looking to get on early foothold in the entry-level computer market, they would do well to lag on PowerUp units to new A1200s or better still integrate them with any new or stop-gap Amiga models.

Phase 5/MD that Dietrich came mented "... we are open for a technical co-operation which would result in nearly immediate availability of powerful and expensive new technology for the Amiga".

Amiga Technologies have told us that they have discussed co-operation with Phase 5 following a contact between the two companies described as being mutually instigated. Co-operation between the two companies would allow an official PowerPC Amiga based on the Walker to be produced in relatively short order. Specifications could be expected to include a PPC 600e CPU running at 100mhz, 2Mb chip and 4Mb fast Ram, 500k - 1Gb hard drive, CD-ROM drive, VGA chipset

A thousand possibilities...

There has been endless speculation on the fate of the Amiga since the Gateway buyout. Industry pundits were universally taken by surprise by the move, and many have suggested reasons beyond the obvious one of a mis-placed machine of the type the European market looks desperate for. We have been taking a close look at Gateway and the Amiga to see which of these theories might have a basis in fact.

Set Top Boxes: Vocom wanted to buy the Amiga because they saw it as being the ideal basis for a machine to challenge the world in the set top box market. Set top boxes are a very advanced equivalent of a satellite decoder. As well as internet access a set top box would in theory allow the user access to all sorts of digital services from on-line gaming to home shopping. The highly efficient nature of the Amiga's operating system makes it able to do these functions with a considerable saving in hardware costs. Gateway have been spreading into the multi-media arena but Techterich is quoted as saying that no-one plans to use the chips, motherboard or OS for anything other than Amiga computers.

Printouts: One industry pundit has pointed out that Gateway have no presence in the printout market and have suggested that Gateway wanted the Amiga technology for use in printouts. The theory behind this would be again down to the efficiency of the operating system - Amiga OS works with very limited hardware - but the hardware which Amiga OS currently runs on is not really designed for small apps.

Rediged PCs: The choice of the pessimistic observer, this is about the least likely option. Although the Amiga has a very good name amongst people in the know, the general computing crowd tends

to think of the Amiga as a games machine.

Amiga PCI boards: The Amiga chipset and OS could be implemented on a PCI card to be used in a desktop PC. The logic behind this is in fact a little out of date - the Amiga chipset is too old to stand up to the best PC chipsets, and this just leaves the OS, in which case why not just code a Platform native version of Amiga OS?

Alternative OS: There is actually some possibility that this was at least in the back of the minds of whoever decided Gateway should buy the Amiga. Gateway are known to be very Microsoft/Intel oriented regulars, but the relationship is not quite as cosy as is often assumed. Gateway investigated the possibility of buying into MacOS recently, suggesting that this may be uneasy about Microsoft's OS dominance.

Network Computers: Computers that are permanently connected to a network and use on-line storage and processing instead of their own are the kind of thing that Amiga OS would be brilliant at doing given its high levels of hardware efficiency. What is more, Motorola have a very wide range of embedded systems CPUs with built in camera hardware based on the 68040 series. An MC running Amiga OS on such a CPU would make for a very powerful and very cheap setup. Interestingly, we have heard that Gateway's CEO Rick Foster has voiced discontent with the way that Microsoft have been trying to prevent competition in the MC market by announcing the specifications of their Windows NT5 based MC OS as a proposed standard before it is anywhere near completion, a move some pundits suggest is their way of getting a stranglehold on the MC market before it even exists.

and an HD floppy drive, and based on previous pricing could retail for around £300. The importance of the geographical proximity of Amiga International and Phase 5 (both in Germany) should not be under estimated as a factor in the success or failure of this particular development, for a first hand experience of the PowerUp cards, check out the CU Amiga stand at the World of Amiga show, during May 17th-19th.



Stateside News

By Jason Compton, Editor in Chief of Amiga Report Magazine

St Louis Gateway Show report

The great irony of Gateway '91 is that it was held during a bankruptcy which was about 18 and just a week or two after the show was held - after Gateway 2000 had their bid for the Amiga accepted.

Still, a little prolonged bankruptcy proceeding isn't enough to kill the spirits of many Amigans, and they made the trip from all over the United States and Canada to be at the show. The show was filled with high points - the initial low point was

QuikPak's failure to attend, although QuikPak's CEO maintains that the Gateway people were told that QuikPak would only be at the show if there was a bankruptcy resolution by the date of the show, and of course there was not. In retrospect, we now can be pretty sure we know why.

Major planning

The St Louis people took over a year to plan, and it showed. Television and radio ads were used to help promote the event, as were several meetings of flyers

about the show to Amiga users across the country.

Two major dealer booths anchored the retail end of the show. The biggest was National Amiga, who were continually busy in their U-shaped zone. Product diversity seemed to be the key, as people commented that National had at least one or two of everything. They had an awful lot of InterIM's, the new PC keyboard interface for big-box Amigas that National is marketing.

Siamese display

There wasn't much in the way of new hardware at the show, although National had just received a shipment of four new boards for the CyberVision 3D and VIC Plus was showing a line of redesigned Philips TVs capable of VGA output. The Siamese System was also on display, but more about that later.

One of the most interesting pieces of hardware at the show was brought by Jim Goodrow, who did a lot of work for ViComp recently. He brought a ViComp set-top box prototype which ran AmigaOS 3.1 and a development version of ViComp's networking software. It was the first time I'd actually seen a ViComp box work, and to me knowledge the first public display of AmigaOS on a non-Amiga or Oros machine in the United States. It's still not clear if anything will ever come of ViComp's work, but Jim had proof positive that the ViComp engineers have at least something to show for their efforts.

A few user groups set up their own area to sell general merchandise or promote specific products. AmigaTech of Ohio was selling their Schwann T-shirts, featuring many of his cartoon creations while Amiga Atlanta was still selling copies of their year-old 10th anniversary banquet video.

Magazines

The US only remaining native non-press Amiga magazine,

Amazing Computing, was there in good force, and their booth also hosted Keith Sidens and his AmigaFast 40000 SIMM card. If by chance you have an 40000 and are looking to increase the megabyte RAM, you might consider doing yourself a favour and checking out the AmigaFast rather than wading around trying to find ZIP memory. AC editor Don Hicks was among the most interested people at the show, working to drum up new subscriptions and new enthusiasts among the showgoers.

Product developers were well represented. Nextel went about a half-dozen technical and sales people to the show. It's professionally presented booth, although certainly nothing of the size they would use at a larger video industry show. They committed something of a faux pas in their choice of Lightwave hardware platform: they brought a high-speed Alpha machine running Windows NT instead of an old Amiga. This didn't go over well with some of the show's visitors. I can see their logic. "Well, we're showing off our flagship product, we should show it on the fastest machine we can find, right?" Well, yes and no.

Nerve Design, the makers of ImageFX, were there showing their demo video and selling ImageFX at a deep discount. Their new presentation guru, Cyvina Cairns, stood on chairs every so often to draw attention to the booth. Cyvina's attitude is quite good and fairly well known in the Amiga world, and Nerve Design will be using her to do customized ImageFX seminars across the country.

Richard Korman of HiSoft was on hand too, and had hoped to show an AmigaOS 3 and AmigaOS 1.1 but his shipment never quite showed up. He did answer questions and talk to users and developers, however. HiSoft's American distributor,



▲ Nerve Design maintained their presence in the Amiga scene with another showing. Although Windows NT is still on withers, David Woodall was on hand for questioning.



▲ In there we sold to the 'hanger' for Amiga-related bits and pieces? Amiga mugs were just one of the Amiga-badged 'gift items' on sale at the show.

Oregon Research, were unable to personally attend but they did have a letter framed by a value team and the company's president sent a letter apologizing for not being there.

Anti-Gravity

Another of the UK's native sons, Paul Miles of Photogenics and Nemesis System fame, was hosted by Anti-Gravity Products. Anti-Grav is a large dealer who focus on video products, but for this show they turned their entire area over to Paul and his Cosmos System, which he ambitiously demonstrated to curious passersby. Working in his favour was the Eagle A4000TM, some thing Americans don't see much of. While used in the more inland Quadra A4000TM.

IAM, Del's Lantz's company, famous for the built-in Connect Two Amiga, and infamous for their book *Tom Shaples of Design: Internet Edition*, were there to sell a number of products at show discounts and give away Amiga and Commodore logos to their customers — a very popular convention. While IAM had had distribution problems in the UK recently, these seem to be coming to an end. The company has a new book coming soon which is difficult to describe — its author is nicknamed America's Journalist who has lived in Mexico for the past 20 years, comments on and jingles the Internet and technology and seems to tell the reader more about himself than about his chosen topic. Of course, if you're not a big reader, you would have been more interested in the DualDisk and MEGAbase combination they were selling instead.

Slam Fun Productions was showing off the Roms A1200 portable which is still an impressive feat. Slam Fun is apparently very unhappy with QuikFile right now over a non-payment of royalties for the QuikFile portable machines that have been heavily topped but little seen so far. The LCD technology seems to have aligned with Slam Fun, and they'd like their money or their screens back.

Self-promotion time: Amiga Legends was announced at the show, a new videotape based



▲ Del Lantz and Legato proved popular with head-sets of Amiga and Commodore legends, and managed a bit of promotion for his Connect Two Amiga book.

magazine to be published 5 times a year, 3 in the remainder of 1997. I'm involved with the project, and our area did attract people to check out our rolling demo tape. I think the video monitor with all the junk hot-glued to it did the trick. Legato might be published in 1998, in Europe and Australia, we're discussing it with potential partners now.

Official banquet

Various other exhibitors were in attendance as well — some with small areas or only promoting one product, like Omiga and their MoneySmart program, or the underpriced Soft-Light booth.

There was an official banqueting held after the first night where a panel discussion group fielded questions from the audience. Miles revolved around the survival of the Amiga and Amiga-related companies. The following morning a developer meeting was held where dozens of current or potential developers discussed possible routes for cooperation and standardization of certain neglected issues like new animation and image formats.

Kenneth Woodall of Neve Design chaired the meeting, which tackled the issue of establishing new and needed standards for developers, such as video and animation formats. Commodore and Atari made an official part of the Amiga's operation. The issue of creating a standard multi-HDMI, viewer as a replacement for AmigaGuide came up, and unfortunately broke down quite quickly into an emotional and even anti-

ClamAct debate. However, some good energy came out of the meeting and we're looking for more to come out of this cooperation.

PowerUp

Developers and users alike were very interested in Neve Design's newest fan — a Phase 5 PowerPC developer dissembler. Neve did not have it plugged into anything, but the rather plain-looking piece of PCB was shown off briefly on the second day of the show. Neve seems geared to support Phase5's 3D and PowerPC technologies, and we will hopefully see these new releases soon.

Announced at the show was an allegedly upcoming Amiga Ethernet card, with 10BaseT and AT10baseT, that would go in a Jami slot for only US \$160. If it becomes a reality, it would make Amiga networking truly affordable. An A1200 version is also planned to hook up to the A1200's internal clock header, much like the new HyperCard high-speed serial port does.

On both days, the show organizers held raffles. While QuikFile was expected to bring a 4000, this didn't happen and a used A1200 had to be substituted by the show organizers.

Nevertheless, that and a number of other products, including Lightwave 5, were given away and a lot of people were happier when they left than when they got there.

The mood at the show seemed very optimistic. In particular, getting to meet many of the people who have brought so much to Amiga users lives was a big boost for them. Holger Bruns of Miami TCP fame was at the show, and more than one person (myself included) showed money into his

hands on sight just so they could be taxed and finally register Miami. I did guilt him over so slightly first for never sending us anything for review, but made him take my money all the same, because Miami is just that good. There's a lesson there — if you're a shameless bullseye whose product is popular, go to Amiga events and just make sure people know who you are. They won't have any good excuses left not to give you the money.

The show's "mascot" was a big yellow smiley face and the slogan was "The Smiley is Back". While not as large as the winter "Smiley shows of 1995 and 1996 in the post-Commodore era, it was more impressive than the rest of the crop of the past few years. Everyone asked about Gateway '98 — time will tell.

Other news

In other news, US-based Flame Development has taken over the rights to the Voodoo e-mail package and plans to bring the once-shameless package to a commercial status, building a "real" version with its Private Web Client WWW browser as well as selling it as a standalone package. Flame's first new products are scheduled for release starting in late spring.

Steve MacOver of Canada has announced availability of the Chameleon tower conversion for desktop A3000s and A4000s, marketed directly and through Ontario Amiga of Oakville, Ontario, Canada. While expensive (over US\$500), the optional extra TBC slots (provided, but not bus-connected PC slots used for TBCs and other video hardware) should prove attractive to video professionals. The towers also sport 8 drive bays and multiple fans. MacOver also distributes a remaining stock of Amiga Macintosh emulators. Amiga was technologically left behind some time ago, but the Jerry II card of the Amiga II+ and Amiga IV is one of the few things which allows access to 68000 Macs Reg-press — if you're in need of that sort of access the USB 1.5 is almost worth the price of admission. MacOver can be reached at +1-416-295-7121, or www.interlog.com/~clawmngv/online.

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phase 5

WHEN DO YOU WANT TO BE FORTUNATE?

Vulcan Software To Go CD Only

Vulcan software, probably the biggest Amiga games producer in the UK, have decided to convert their production to exclusively CD-ROM releases. This shock announcement is bound to cause major controversy – the Amiga market in this country is a bit behind the rest of Europe in joining the CD-ROM revolution, and Vulcan are taking a risk.

The PC market switched from floppy to CD-ROM a few years ago in a move that was led by the market – publishers moved to CD first, the public followed out of necessity. This is the position that Vulcan want to provide in the Amiga market. It is the general feeling in the Amiga market that if the Amiga is to survive as a viable software platform, it must get a larger installed base of CD-ROM users.

Vulcan believe that the risk is one that must be taken. They cite piracy and packaging costs as major reasons for going CD-ROM only, and point out that stockists, particularly overseas, are increasingly unwilling to carry games that aren't on CD. Another major rea-

son for the change is that the software of today is just getting too large to fit on floppy disk. Vulcan were originally planning a floppy disk version of their forthcoming Hell Rigs game, but the realisation that this heavily cut down version would take 32 their sales must have had some impact on their decision, especially as CD floppy disks are now considered non-standard in the disk duplication business.

The next year will be a critical one to the future of Vulcan, and CU Amiga magazine wishes them the best of luck in this brave venture. Contact: Vulcan Software; 01705 670266. Email: Paul@vulcansoft.demon.co.uk



Imagine Sticks With Amiga!

Impulse, the software company behind the enormously popular Imagine rendering package, have announced that they will release a version 5 after all. One of many Amiga developers moving to the PC, Impulse have been threatening to pull out of the Amiga market for some time now, but have been reluctant to abandon their traditional home. The significant decrease in sales of later versions of Imagine lead them to release version 5 to the Amiga community at the ridiculously low price of \$190 US plus shipping in the hope of bring up some interest.

The response to this last gasp effort was better than expected,

and Impulse have sensed a new confidence in the Amiga market. According to Impulse's Larry Halverson, "Impulse is excited about the future and the search of the Amiga".

Imagine 5 will be published as part this Amiga Constant Upgrade Scheme (ACUS), where in the future, instead of major updates every couple of years there will instead be a programme of continual upgrades for registered users. Cost will be \$700 for registered users of version 5.

For more information, phone Impulse in the USA on (+1) 812 4250952 or <http://www.constantupgrade.com>



AUI RIP

We are sad to announce the closure of yet another Amiga magazine, Amiga User International, well respected for its high technical coverage and independent stance, has published its last issue. AUI started in 1987 as a free insert in Commodore Computing International, becoming a subscription only magazine under the same Commodore Business and Amiga User, which soon turned into a full magazine available from newsagents.

CU Amiga's editor, Iain Horgan, launched his Amiga career with AUI, and fondly remembers pulling out some of the very first subscriptions by hand. Antonio Jacobson, managing editor and publisher, kept the magazine going despite the odds through some tough times, but insufficient circulation and advertising revenue finally took their toll.



PSU Connectors For Tower Converters

Intimate Computer Systems can now supply the non-standard Amiga power supply connectors, making DIY PSU upgrades cheaper and easier than ever. ICS, who are currently putting the finishing touches to a full tower kit (to be delivered next issue with any luck) have put in an order for these rare parts which are due in stock by the time this magazine hits the shelves.

We detailed how you can convert an off-the-shelf PC power supply for Amiga use in the May 1997 issue, complete with wiring diagrams. The availability of the plug means it is no longer necessary to cut up the existing AT200 PSU, which would of course render it useless. For the concluding part of our tower conversion series, see page 38 of this issue, in which we tackle the exciting options available to you once your Amiga is granted Zorro capability.

ICS also supply a range of custom cables for tower conversion projects. They can be contacted on 01474 523550.

News in brief

Big Red Correction

In last month's issue we listed Core Design and Dynalabs as publishers and Power Computing as suppliers of Big Red Adventures. Dynalabs are the developers, and Power Computing are the publishers. Core published the PC version but had nothing to do with the Amiga release.

For more information, contact Power Computing on 01234 851500.

AAA Awards

The Amiga Computer Group in Sweden has announced an annual Award for Amiga Achievement. They hope that this will help to bring the Amiga community together. The first awards, decided by jury, were given to David Hargis International and Thomas Svensson (Sweden) at the Amibook show in Stockholm over the 25-27th of April. AAG are accepting nominations for next year's awards. Point your browser at <http://www.amiga-cg.se/aaa/>

AHI Reaches 4

Martin Blom has announced the availability of version 4 of his AHI reconfigurable audio software. AHI now supports Pcspe (the built in chip), Auro, DigiPro DSP, Dingo Motion for Dingo systems, ProAudio, Tascam and WaveLab. AHI can handle 128 virtual sound channels in real time and can do real time 32-bit rendering with linear interpolation and mixing at up to 96kHz. AHI has a homepage at <http://www.lysator.liu.se/~blom/ahi/>

Amiga Transpouter

The winner of our Ultimate Amiga Transpouter competition, as run in the January 1997 issue of CU Amiga, is Ben Matthews of Oxford, who gets a load of exclusive Amiga kit as a prize. We'll try to get a picture for next issue.

Reader Survey

Results

You filled in the forms, we fed them into a big computer, and this is what came out of the other end.

Most copies of the January 1987 issue of CU Amiga Magazine came with a reader survey form tucked into the pages. To help us get a better picture of you, we asked you to fill it in and post it back to us. By way of an incentive, we also offered a (Asian Sigma) palmtop computer to one lucky respondent, picked at random from all the entries. That lucky reader was one M. Barnette from Conway. We'd like to thank everyone who took the time to put pen to paper. The information you've given us has been extremely interesting and useful. Right then, on with the results.

You, the CU Amiga readership

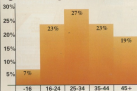
Let's start with a look at you, the reader. Many of those outside the Amiga scene have a preconception that our readers are all teenage boys. This myth is shattered by the response that shows a typical CU Amiga reader could be aged just about anywhere from school kid to pensioner. There's virtually no peak in the age range at all: 62% of our readers are evenly spread from 16 to 45+.

As for sex, the results were not too surprising: 86% male, 13% female, and 1% apparently going through "one of those phases".

We asked how much time you spend on your Amiga each week. Responses for this were quite varied, ranging from 15% who are on their Amigas for 5 hours or less, ramping up smoothly through to 17% clocking up 21-25 hours, then back down a little for the 15% who spend more than 27 hours a week with their Amiga. The conclusion? Oh dear, no question about it!

How long have you been at it? 66% have been with the Amiga for 3 years or more. Half of those have enjoyed the Amiga for 5 years or more. Newcomers, Amiga owners for 3 years or less, make up 33%. The average length of Amiga ownership came in just under 5 years.

Age of CU Amiga readership



▲ Despite a slight peak in the 25-34 range, CU Amiga Magazine is read by adults of all ages, with a fairly small contingent of under 16s.

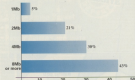
Your Amiga

So enough about you, what about your Amigas? A startling 80% of you are A1000 owners. The good old 1.3 A600 was the next most popular machine with 15% of the vote. Almost level pegging were the C010, A600 Plus and A600 with 12%, 11% and 10% respectively, while the 'big box' Amigas only scraped together 4% when combined. Mathematically we notice that these scores add up to 116, making an average of 1.36 Amigas owned by the typical respondent. Alternatively, 36% of you own a second Amiga (assuming no-one has more than 2, which is probably not true).

Another popular misconception is that there are loads of Amiga owners running on 1 or 2Mb systems. When quizzed about RAM capacity, a heartening 43% reported 6Mb or more, while 30% listed the 4Mb box. This should have been marked 4Mb or more, and we'll assume it was, which would make 6Mb a probable popular RAM size, 15% are still getting by on 2Mb, with the 1Mb brigade being up the rear with 5%.

Next we wanted to know what peripherals your Amiga is blessed with. Once again we were pleased to see 81% of you have hard drives, 85% have a printer, 81% have a monitor, 57% have a CD-ROM drive and 48% have an accelerator. The next most significant add-on was a sound sampler coming in at 27%.

Total RAM capacity



Amiga models owned



Amiga usage

So what exactly do you do with your Amiga? Almost everyone turned up to a bit of word processing, 81% of you in fact. The ever-popular graphics/animation area scored a slightly lower than expected 64%, not as high as might be expected considering the superb built-in Imaging 4.0 as the main cover mount. Next, DTP pulled in a respectable 52% score. Music and programming were next up, with 26% and 23% respectively. Another significant area was that of 'office' type applications such as spreadsheets, personal finances and business presentations. Multimedia scored 22% and video got 21%, which if lumped into one category would rate as one of the most popular uses, although many respondents may have ticked both boxes.

There was a separate question to ascertain game playing habits. It seems most readers are occasional gamers to various degrees, with half reporting that games account for between 26% and 75% of their Amiga time. Non-gamers got a bit lost in the 0-25% category, so that's not told us much, but we do know that 41% use games as the major use for their Amiga.

As for the types of games that are most popular, adventures top the chart, with shoot 'em ups, puzzles and racing games all level pegging in second place, closely followed by RPGs. Less popular were platform, sport, arcade conversions (when was the last time we saw one of those?) and last 'em up' games.

'Serious' applications

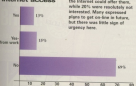


Net surfers?

To get an idea of how many readers are connected to the Internet, we asked them (learning plan, eh?). The response came back as 11% with access from home and a further 16% who surf from work. 68% relied on Internet access. However, it's our opinion that many dedicated net users would be unlikely to fill in a large questionnaire such as this and send it by 'snail mail', so the actual figure of netted-up readers may well be higher. When asked 'if not, why not?', 68% cited either the cost of access or the expense of getting up and running with an Internet system and account.

21% were unsure what benefits the Internet could offer them, while 26% were resolutely not interested. Many expressed plans to get on-line in future, but there was little sign of urgency here.

Internet access



What about us?

It was interesting to see how many bought that particular magazine on the strength of the cover, software or reputation alone. 56% of those who bought CU Amiga 'over the counter' didn't feel the need to look through the magazine at all before parting with the cash. However, of those who did want to survey the goods first, 76% looked at the contents page before buying, while the covers, features and 'technical' reviews were also well-thumbed in the magazines.

We also asked you to rate four aspects of CU Amiga as excellent, very good, good, fair or poor. 'General quality of writing' was rated as either excellent or very good by 14%. Similar scores were registered for 'General quality of pictures', 'General look of magazine paper' and 'Style of front cover'. A bit of cross-referencing shows that most of the more enthusiastic marks in this section came from younger readers.

When asked to rate individual sections and articles in the magazine, these sections that applied to all readers were rated highest, as expected (see chart below). Specifically news and Click were of great interest to many, but the biggest crowd puller was the Imagine 4.0 features (ah, and the program itself no doubt), left off this chart for the sake of clarity. Opinion of the rest of the contents varied depending on the particular interests of each reader.

To sum up your opinion of CU Amiga we asked for three words which best describe the magazine, to be picked from a list of 24 that included a range of positive and negative adjectives. Way out in front were the top three of 'Informative', 'Friendly' and 'Interesting', each scoring between 12% and 18%. At the bottom end of the scale were 'bored', 'confusing' and 'juvenile', which we were glad only managed around 1-4% each.

Rating of magazine sections



And finally...

The survey also revealed a number of other factual nuggets of rather less relevance. For example, 3% said they would like to see more coverage of food in CU Amiga, 26% are interested in animals, 21% want Levi jeans, and the average weekly lager consumption is 4.26 pints.

What this survey shows is that there really isn't much a thing as a typical CU Amiga reader, something we have been aware of for some time. The only generalisations that could be made would be that most CU Amiga readers are male, own an Amiga, and use their Amiga for word processing. However, we've learned a great deal from your responses, and all the information we've gathered will help us fine-tune your favourite Amiga further still. Thanks.



The Amiga

CD-R

Evolution

Ever thought of starting up your own CD company? It's not as difficult as it might appear. It's also feasible to go into commercial CD mastering from your own home and, more importantly, from your own Amiga.

It seems like yesterday that CD-ROM was a big thing. I remember gazing awestruck about the CD format and splashed out an awful lot of money for a CD player and a copy of *Disc Strategy* (both in Amiga). Nowadays a computer is hardly sold without an 8-speed CD-ROM built-in, and magazines come with 800Mb of data stickily taped to the cover. The format has no longer been regarded as something you had to

buy, rather than record yourself, that the fact you can roll your own has taken some getting used to. It was always too expensive anyway, until now.

Only last year, a CD Recordable or CD-R deck cost over £580 and blank CDs were £15 each. On the Amiga, things were even more toppy, with MasterGO as the only software's expensive MasterGO as the only software option, incomplete with its support for a limited number of CD-R drives. Luckily

things have improved no end with the price of CD-R decks plummeting, excellent new Amiga software and the cost of blank media also falling. Previously, writing CDs was thought to be a specialist application. This is a myth we'll seek to dispel here as we point out the advantages of CD-R and how to do it on the Amiga.

Why CD-R?

Is it worthwhile spending this much money on a CD cutter? It depends on the application, of course. At the minimum, CD-R is definitely the cheapest random-access storage around. That means it's cheaper than Zip disks, floppies and of course hard drives. Tape backup can be cheaper but the data can only be read off sequentially and of course, it's only good on tape drives, not CD-ROM mechanisms, more expensive than Del Rey's access. OK, so it's cheap massive storage but it has



▲ Here is the main window of **AmigaCD**. Tracks are defined along with their types. Also indicated is where the tracks are to go: temporary files or directly to the CD sector.

some drawbacks: it can only be written once and writing CDs is time critical.

The obvious application for CD-R is the backup, but in reality, Amiga users rarely have need of such a device purely for backups. Most likely you'll be using a CD-R for something else and backing up is just another useful application of a CD-R drive connected to an Amiga. So, the major use is going to be actually making CDs for other people. They may contain data, music or a mixture of both. CDs can be read by virtually any machine, so right from your Amiga, you could make a commercial CD-ROM for use on a Mac, PC, Amiga or at times, which has indeed been done before. Doing that obviously increases your potential market too.

Compiling freely redistributable software and pressing a CD full of this could then be passed to commercial distributors. They would then make a Glass Master (lasting around \$400) and be able to press alive CDs from there at a cost of around 30 pence each (depending on quantity). Fast free to do the maths and figures can it? It's time to start up that CD company! There's good merit to this idea, exactly what you may put on a CD is up to you but it's easily feasible to go into commercial CD mastering from your own home and, more importantly, your Amiga.

Making music

The next application must be music. The Amiga's tools is sadly inferior to CD-quality 44kHz 16-bit audio and you can't fit an Amiga in your back pocket or mail it to a record producer. Armed with a copy of GateMPC SoundStudio from the March issue of CU Amiga, an Amiga can generate the highest quality music straight to hard drive. That can be directly cut onto CD to use as a demo, commercial record master or even your own personal listening. Copying tracks off other CDs onto a new CD-R is easily done. If you want proof of this in action, have a listen to the two audio tracks on this month's cover CD. Both were produced using Amiga and mastered onto a CD-R with an Amiga. You can have that kind of audio-quality too.

Cutting CDs

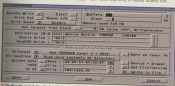
The business of using CD-R cutters on Amiga isn't hard. In fact in many ways it's superior to doing it on a PC with its plentiful multitasking and hideously expensive software. However, it's not a trivial undertaking and requires some understanding of what's involved and a base level of performance to ensure reliability. Firstly, ISO CD-R decks are only just appearing and as yet they are totally untested on Amiga. For the moment you will require a SCSI interface to use a CD-R. It's likely that a SCSI interface will always be the best way of using a CD-R at any rate since the A630/1204800's ISO interface isn't fantastic anyway.

The critical factor on driving a CD-R recorder is that they must be fed data at their recording rate with no significant interruptions in the flow. That means the writing process must constantly be supplied with data from the part of the system that's reading the source from the hard drive. It also means you can't multitask your Amiga to your liking since this may take away valuable CPU resources from the CD-writing process and the

ISO 9660 options

It's generally known that ISO 9660 is the standard for CDs but what kind of standard is it? It's a filing system just like DFS and FFS are on the Amiga. The standard isn't anywhere near as complex as the Amiga's filing system - standard ISO 9660 level 1 only handles PC style 8.3 filenames. Not much use. Fortunately, ISO 9660 level 2 supports 31 characters but they can only be uppercase alpha numeric or underscores. Not much of an improvement.

So there's the RockRidge extensions which give full files with all possible ASCII characters inside. Great news but sadly the original Commodore CDFS doesn't support this so we must use the ISO 9660 standard and break the 'rules' to include full Amiga filenames. It's a shame that so many Amiga users still use the ancient buggy Commodore CDFS as it imposes certain restrictions like not being able to record special Amiga attributes in RockRidge and so on. When we mastered CUED10 with RockRidge, one aspect of this broke the Commodore CD-filing system and so we needed to mail out hundreds of CDs using the old format but it's time that you updated to AmigaCDP! You can find a full installer on this month's CD-ROM.



▲ By now it's time before each activation the various components. Above here it's general preferences setting an impressive array of settings for the CD-R writer and the type of ISO volume created.

deadend 'buffer-under-run' will result. This will render the CD-R disc useless for that track and so is a waste of a byte at the current cost of CD-R media. Such

DMA 9091

For example, CD-R drives have test modes, fantastic for making sure you have the correct configuration tweaked right so that everything goes without a hitch — once the cutting laser is turned on the point of no return is reached. Finally, a stack of AG-265s with an internal hard drive and a Squirrel interface is unlikely to have the necessary throughput to drive a CD-R. The Squirrel itself consumes a good deal of CPU horsepower during SCSI activity as it is, but when the CD-R controller tries to fly the tape, we're asking for trouble. A DMA SCSI controller attached to a CPU accelerator will be just the trick, regardless what CPU power you

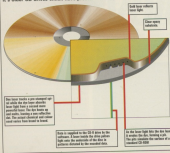
On a big-brother Anriga, things may be less critical. In this case, reading from an IDE drive and writing to a SCSI CD-R via a Jazzer 2 controller such as an Odagon,

CD-R and how it works

The basic principle of CD-R is as follows... A blank CD-R disc has a spiral pre-stamped into the media. When writing, an initial laser tracks this groove so that the laser head can write the data. This is rather critical to say the least, which is why the faster rotter you can get for less than the price of a new house, writes at only 4 speed. Most write at 2.

The data is written by the second, larger laser switching on and off to write the pits and dots. The entire CD-R disc is coated in a chemical which changes its reflectivity after being heated by the laser. There are several chemical formulations used in CD-R disks which are most noticeable by the colour. Some are a pure gold giving rise to the nickname for CD-R disks as 'gold disks'. Others are green or even blue. They function in the same way though some work better than others in certain brands of CD-R writer. We found a couple of brands which put CD-Rs virtually CD-ROM drive fast speeds in reading.

This is another important issue: a CD-ROM device should be able to read any kind of CD-R disk but in reality this doesn't work out so neatly. Our advice is to stick with a reputable brand of CD-R media, safe in the knowledge that it works. Don't be surprised if Dad's CD player won't play media from a CD-R - this is the most popular area of failure. Generally it's older CD drives which have problems with CD-R disks.



⚠ The source preference for the data trade is **Market2B**. Setting the source of the files to **build** and the so-called **'Primary Volume Breakdown'** where things like the program and publisher and the volume name are set.

CD-R models

A top-line CD-R writer you can recommend is the Plextor 800-14200, which recommends it for three reasons. Firstly, it's a pretty fast 24x burner which enables all the things less critical. That is, over 6 seconds of CD writing so an interruption would have to be quite serious before it affected it. Secondly, Plextor CD supports the drive directly and it's known to work perfectly with it. More about software later. Thirdly, the drive is extremely good value for money at £290 from Linetech Ltd (0171-474 1788) and it's even available in an Amiga-friendly external powered box for £380. It's by no means the best writer on the market but it's the right price and the software buffer makes a good

The absolute best drives on the market by most universal agreement are Yamaha's range of 8 speed writers. These are known for giving the lowest bugs in the firmware of all CD writers. Yes, unfortunately the manufacturers can no longer claim that it's quite



Abstract



■ **High-end preferences.** Spot the two megawatt units being built by the Connecticut CO Group

criticism for CD writers to pinpoint bugs in their firmware which may not be worked around by the writing software. If software supports a write, generally the authors have done this. The Verbatim ones are expensive but may well be worth it if you're looking to cut CDs more than infrequently. A full CD only takes 10 minutes to write as opposed to 20 minutes at a 2 speed unit. They do have a buffer plus a higher speed so demand extra system performance. I recommend this only for those with impressive Amiga hardware or a fast SCSI.

The self-aware man

Microsoft CD-ROM This is the probability of commercial CD writing software, from Canadian CD specialists. As a writer, author of the excellent AutoCDPS CD-Ring system, it's simple and a little expensive for amateur use but it's surprisingly robust and is the most efficient CD cutting software available. There's virtually no CD volume options to be had so it's geared specifically towards creating Amiga CD-Roms. It doesn't directly support a range of CD-R decks, it's just known to work with a few such as the industry standard **HP-MS2000/Plus**. **CD2000**, the Yamaha and a couple of others, it can't run on the fly and has none of the bells and whistles that **MilitekCD** does. It does exactly what it says on the tin 100% reliably which is why it's been used by us to make CDs since CUCD.

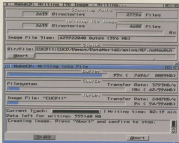
MaxpeedCD 2.0 is firmly in the development works, promised for some time next month. With the authors back at it three

Run It! is a resource like MakeCD. Run It is written by German programmers Michael Sauer and Axel Deising. Run It's

Multi-processor

When you can only write to a CD-R once, it's not true that you can't record any more on it after that. You can use the so-called *multisession* capabilities of CD-R recorders. The first and most common application of this is PhotoCDs. Where a roll of film is taken in with a CD-R disc. The developer uses the photos and places in a session on the CD-R. This can be repeated until the CD-R is full. We can do this with data files also although only the *Adaptec's*, *CactusCDs* and *Imaging* filing systems will mount the various sessions. *Just* another

You will also need a CD-ROM drive that is multibSession compatible or you will need to use the CD-R disk to read them. **MateCD** will then let you multibSession support. Using them in this way increases the usefulness of CD-R recorders. You don't need to wait until you have a full CD worth of data before erasing a CD.



■ **StateOP's** rather convoluted program report while building an ISO image. The top window shows the file being placed in the volume, the lower shows the buffer, sequence and transfer rate statistics. How low

main claim to fame is that it handles Disk-At-Once (DAO) recording. This enables CD-Rs without a second glass between tracks just like those currently found on commercial audio CDs. It's also very useful for creating disks for commercial duplication. Burn II is an extremely well-tuned CD writing package and will be taking a closer look at it in the next issue of CD Amiga. Loaded with not only write capability, but extensive reading functions, the documentation doesn't shy from mentioning the lengthy process of "backing up" PlayStation CDs. The package is currently out to look for a distributor for the DAO capability alone which is yet to be implemented on any other Amiga CD writing package. There's a no-frills demo of Burn II on the CD but the full version is not cheap at £39 for the Pack At Once and £179 for the Disk At Once versions.

Make CDs: The CD-ripping package which every thing else is going to be measured against given the current state of the package, avoided 92% in this issue. *MameCD* has lots of options to alter the ISO image and it's also the only package which doesn't require generating of a temporary ISO file before burning. This saves on time and hard drive space if your *Amiga* is quick enough to keep up with it. It can read and write multisectioned

Model 745 adds just the Burn II and is promising DMO capabilities soon. A support package which at around £25 for amateur use is a total steal. Check out the review on page 63 and the deals on the cover CD-ROM before you say any more. Bottom.

These now have it, top quality CD-R decks have come right down in price to an affordable level and the Amiga software is looking absolutely superb with even more in store for us later. With all this power now within your reach, it might be worth considering your very own CD-R after all, whether you want to make a few backups, set up shop as a software house or even start your own record label!

For more information, see this report's CD-ROM web section for just about every thing you need to know about the CD-ROM product.

TABLE 1
Summary of the 1000 Genomes Project



Build Your Own Tower

PART 3 As our DIY guide to tower conversion draws to an end, we present you to the wonders of Zorro cards and introduce the easy option of commercial towers.

Welcome to the third and final part of our epic Build Your Own Tower feature. It has been a long road with more than a few pitfalls, but it is something that had to be done. Now that the Amiga finally has a home, the prospect of the technology being brought into the modern era looks good, but until such a time as Gateway/Amiga International have a new, upgraded, industrial desktop machine for us all to rush out and spend our hard-earned loonies on, the only true path to Amiga nirvana is the way of the tower conversion.

Over the past two issues, we have covered the most basic but most universally useful advantages of tower systems. If you follow the guidelines for either the single tower sidebar or the full tower conversion, then you will have a freedom of expansion that is simply not available to the Amiga user stuck with their 80% style keyboard console machines. The high-capacity power supply means you never have to worry about the problems of using an expander and a hard drive — gasp of breath — at the same time. 44-pin to 40-pin converters on the IDE part enable the use of easily available hard drives, CD-ROMs, even Dv drives, all to be found at knock-down prices from the cut-throat PC market. But there is more. This month we look at the ultimate expansion for your Amiga: Zorro slots.

Bushboards

Traditionally Zorro slots have been the preserve of the Digibyte Amiga. Many Amiga users have only a vague notion of what they are about and why they might want them, but little known to most A1200 owners, there is already something not far off being a Zorro slot in your computer — the accelerator slot. German hardware manufacturers Micronik have for a little while now produced a Zorro bushboard for the A1200 which plugs into the accelerator slot to allow you to use Zorro cards. These

devices of course require a tower case to use.

The Micronik bushboard, distributed in this country by Bitswitch, currently costs £10 under £100. This is a fair whack of money, but is good value for what it does. The looked into the possibility of a DIY bushboard, but it simply isn't practical. Not only would it be very hard to build, but the savings would be minimal. The Micronik board can be fitted to a DIY tower, but picking up the matching Micronik tower from Bitswitch makes life a lot easier.

A bushboard and tower package costs £289.99. For this you get the tower case, an uprated power supply, a PCMCIA right angle converter, keyboard adapter, all the

cabling necessary including 44 to 40 pin IDE cables, and of course the bushboard with five Zorro slots, two ISA slots, two PC slots and a video slot.

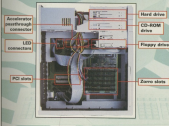
Amiga dedication

The Micronik tower case differs from any tower cases you might look at for DIY options in that it is designed with the Amiga motherboard in mind. When we dealt with DIY options last month, we showed you how to use ribbon connectors to extend the slots to the rear of the tower. A cheaper option would be to make a patch in the back of the case which the motherboard sockets will pass through. Doing this with a hack saw is a tricky task



The Micronik tower case is designed with the Amiga motherboard in mind.

Micronik tower case internal set-up



but this commercially produced tower does it for you. Inserting the motherboard into the tower is made simple by the ingenious cradle system Micronik have developed. A drawer slides out of the tower completely to accept the bare motherboard.

Preparing your motherboard for Minigrip involves a little more than you'd expect just from the DfR filing. Because of the shape and size of this module, the motherboard has to be removed entirely from the metal shield which protects it inside the plastic AT286 case. Not a hard job, but time-consuming and fiddly. If you look at the back of your computer, you will see that there are small hexaports on either side of all the sockets. These hexaports screw through the metal shield, and have to be unscrewed for the bottom half to be removed. The bare motherboard then slots into the plastic cradle, the sockets matching with the cutouts. We found that the registration of the holes are perfect and you can save yourself a lot of hassle by putting the hexaports back when the motherboard is in the cradle.

Keyboard adapter

Slot into the cradle is a keyboard adapter which is the easiest to use of any we have come across. Its unique connector plugs directly into the keyboard ribbon header of the motherboard – two seconds to fit. The adapter takes PC keyboards, a cheaper and better option than the alternative of spending silly money on a case to interface your Amiga keyboard. The motherboard is then screwed down to the case, but be careful as the screws bite into the unfortunately rather soft plastic the case is made from and can easily tear it.

If you're fitting the busboard, it is best done at this point. A passthrough connector plugs into the back of the busboard

and slots onto the accelerator slot on the motherboard. The cradle has support posts which match to screw holes on the busboard, keeping it in place. Connecting the video adapter is the only tricky part of the operation. The adapter has three chip sockets which pass down, inverted, into three of the chips on the motherboard, and there is a single trailing wire that must be soldered to the leg of a chip. The connector then plugs into the busboard.

Once this is done, the module is ready to be slotted into the case. The side panel can be removed and the cradle screwed to a locking dial to lock it in place. With the other side panel removed, the motherboard can be accessed.

A rather major design oversight means that at this stage you run into problems. The passthrough connector adds a link to the overall height of the motherboard, and with it fitted there is no room in the case for an accelerator. The modular design of the case allows an extra bay to be inserted onto the top of the case, those bays costing another £30. Getting one of these is a necessity if you want the busboard.

Your floppy drive should be extracted exactly as described last month, with the mounting bracket removed. It slides easily into the floppy drive bracket of the case and is connected via the long cable supplied to your motherboard. The base plate of the tower has built-in blanking plates for internal floppies. An IDE connector plugs straight into your motherboard and gives you

Waiting for a busboard

What is a busboard anyway? A busboard adds data buses to your computer. These are communication links between your computer's CPU and a range of add-on hardware. Although there are a variety of dedicated buses on the AT286 already, several of which have been heavily used by hardware developers for their add-ons, the standard design bus for add-on cards is the Zorro slot. My two Amigas come with a Zorro busboard, the low end models don't. Most major types of hardware expansion – graphics cards, sound cards and so on – need a fast connection such as the Zorro bus, and at the moment at least, if you want to expand your AT286 in this manner this is the only option. Turn the page to see what Zorro cards can offer you.

provision for a pair of 40-pin devices.

A cable connecting the LEDs at the front of the case plugs into the motherboard, and the power connectors from the PSU are connected to your drives in the normal manner.

To finish too things up, a single eight-way power connector dangles from the power supply – this is connected to a header on the busboard. You can now plug in any Zorro cards, slot up the case and you are ready to go with your new super Amiga.

▼ This updated view shows how easy the tower is to assemble.



Continued next page >>>



► The best Zorro card you'll find is on page 18.



The mark of Zorro

The Zorro slot has been around for some time, since the very first Amiga 1000. In fact, the interface standard only turned into a physical "slot" with the A2000 and it was then known as Zorro II.

A Zorro port is a 100-pin slot in a straight line which allows for full auto-configuration of inserted cards. This means that any ROM and RAM on board the card is automatically mapped into the Amiga's memory space. Yes, the design did this right back in the 80s, where as it became a "revolutionary feature" on the PC in only 1989 (and it still doesn't work properly).

Just about any kind of peripheral imaginable can be added to the Amiga via a Zorro slot. For over 10 years third party manufacturers have been creating all manner of add-ons for big box Amiga. Whether you've got a real big box Amiga or whether your Amiga has been nicely converted to a tower, the addition of Zorro cards can give your Amiga new life. Here we'll look at some of the common cards in each area.

SCSI cards

The first Zorro card ever made was the A2000 XT 16MB hard drive interface. We actually have one of these museum pieces in the office. It lived at the heart of the A2000HD machine, complete with a massive 20MB 16MB hard drive bolted onto the card. It was improved to include a proper SCSI interface with the 3091. Some of these cards are still in use today although they're only useful with late revision 3091s (continued).

There's been a lot of SCSI cards on the Amiga and one that's proved the test of time well is the GVP HC-8 SCSI card. It also has facilities to add memory but requires the slow 16-bit variant. The controller performance is acceptable and the software is also reasonable. It sells for \$29.95 from Power Computing. You can buy a third party ROM upgrade for the GVP called Guro ROM. This is far better driver software which makes the card faster, uses less CPU time and supports a greater variety of SCSI devices. It's not a cheap add-on at \$49.95 though.

Probably the best current SCSI card is the Octagon SCSI card from Eac. It has the same design as the GVP card with sockets for 64K of 16-bit memory and an external 20-pin D SCSI-I style connector, though it supports SCSI-2 commands. The software is far better as standard than the GVP HC-8 and performance is really better though not up to that of the HC-8 and Guro ROM combination. It's a high quality card which has proven to work well with a variety of hard drives, CD-ROMs and the Zip drive. It doesn't work with the In-Cache 62-08 though. The Octagon costs £29 and comes from Golden Image.

None as far as the Portacas of Amiga SCSI cards, the OCS 4091 and 23 revisions. These are Zorro II cards which support full 30-bit Direct Memory Access or DMA for speed. That means they use very little CPU time when transferring data. They're also much faster and support the SCSI-2 "Fast" protocol for even higher speed. Unfortunately these cards were very expensive and we are not aware of any dealers stocking them any more.

I/O cards

Not enough ports? What you need is an IO (input) expander card in a Zorro slot. These can give you high speed serial ports which are much better than the Amiga's ageing internal unit. They can also add Parallel ports for use with networking or

driving a printer while your internal port connects to a scanner or some other device.

There's a few around but the most common units are the GVP IO Expander which provides two high speed serial ports and a parallel port and the BSC Multisave II of identical specification. The GVP Expander sells for £69.95 from Power Computing while the Multisave II sells in at £79 from Golden Image. The balance must go to the Multisave II since Permet and MagFLIP (TCP/IP driver) drivers are available for it and it doesn't need another address panel with the extra serial port like the GVP.

For those with a real need for lots of serial ports, Golden Image have a card known as the "Spider" which sports eight serial ports capable of 57,600 baud each, ideal for a machine 8800 sysop, but it'll set you back a cool £299.

Ethernet cards

If you want to network and network properly you can't beat Ethernet. It's designed to be extremely fast (around 10M/s), can handle very long cables and a lot of machines simultaneously. Once an Ethernet card is plugged in, it will possess a so-called CANA-II device driver which something like Miami or AmTCP can use. Users range from the sharing to getting your Amiga on an offensively named

PCI Slots - What's it all about?

You may have heard some talk about PCI slots. PCI is an interface standard like Zorro II. While commonly found on PCs, they are not limited to that platform. However because the PC market uses this standard, there's a wealth of high performance PCI cards available. If the Amiga grows PCI slot compatibility, we could use these powerful cards too. Some PCI cards that it would be highly desirable to run might be, Adaptec's SCSI Ultra cards, Matrox's fast graphics cards, Ethernet cards and even the 3091 "Noodler" 3D hardware. The bad news is that all of them cost lots less than Zorro cards. The bad news is that we're yet to see a 100% working PCI slot on an Amiga expansion. The Planasec IV apparently has a PCI compatible slot, though some form of physical adapter would be needed. Software drivers would also need to be written for any supported cards. The Microvise Zorro busboard featured at here has 2 PCI slots but it requires a PC-clone-card to be plugged in to make use of them. Darn.

connection, much like we do at CU Amiga.

There's two current cards which are available. The Hydra Systems AmigaNet card sports both Coaxial and 18-base-T telephone cable connections and costs £169 from Hydra direct. There's also the Allegiant's Amiga Ethernet card of identical specification except it also has an extra parallel port. It costs £149.95 and is available from Bittensor.

Sound cards

There's a good range of 16-bit sound cards available for the Amiga although sadly they tend to be let down by software. Macromedia's Toccata is better than most since it comes with sampling software to sample to RAM and hard disk. Naturally it can play full CD-quality 44kHz 16-bit audio and is well supported with the A41 audio racing system. The Amiga's best sound tracker, CosmOS SoundStudio (as featured in the March issue of CU Amiga), supports the Toccata directly. Good news, but we had trouble finding a distributor for it in the UK. Macromedia's telephone number in Germany is +49-2262-949490.

Unmarked and showing business acumen is Petrol's (Berlin) DSP card. More than just a sound card, the unit comes equipped with a 48MHz Digital Signal Processor capable of performing all kinds of operations in real time. Apparently the authors are working on an MPEG audio layer-3 player for the DSP which would take the load off the CPU and provide perfect 16-bit playback, naturally it samples also and is provided with a software control panel to switch soft inputs from microphone levels and so forth. The supplied effects program is fun to play with, it also has an 8MHz driver and CosmOS SoundStudio supports it directly again. However we found the DSP had a tendency to crash for no reason. Again there's no UK distributor. Priced at around £300 from Petrol.

On the cheaper end of the scale is the Prelude, a simple 480kHz 16-bit play/sampling card which sadly has no physical support to hold it into a slot, apparently for A1000-compatibility. We managed to improvise some support anyway and it seemed to work fine. It comes with basic software and the obligatory A41 driver in addition to a welcome Audiolab M-driver.

The Prelude is available from Allegiant Computer Technik in Germany tel: +49-4773-801873. No price details are currently available.

We're somewhat unhappy with the situation sound card-wise. There's not a lot of interest in selling the cards – they're

too expensive and the software support has been quite bad. The Amiga has the makings of a professional studio machine were it not for these facts. Thankfully the A41 audio RTG system is going much of the way to solving the software issues. All we need is cheaper hardware and someone to sell it.

Graphics cards

We come to the holy grail of Zero cards, probably the single greatest reason why anyone would choose to add an expensive and complex Zero expansion to an A1200. It also probably swayed many of those big box Amiga owners into buying out exits for a 2034000. Adding a graphics board leads to a minuscule change. Unlike sound cards, almost everything benefits from the change right away (apart from most games).

The two big players at the moment are the Picasso IV and CyberVision 3D cards. Go straight to page 66 for this month's review of the Picasso IV and a new look at the CyberVision 3D with new software. Both of these cards are dual Zero II and Zero III addressing cards. The extra speed of Zero II has a lot to offer graphics cards hence the support in that area. In fact they are often the only Zero II cards in a typical big box Amiga.

Most of the older cards such as the Rastex (22) and the Rastex BL23 (230), Picasso II (22), Picato (23A) GnP Spectrum (230), Coda (23) and so on are supported by the excellent CyberGraph RTG software. This is extremely well supported and very compatible. If you're looking to pick up an older card second-hand, we advise you check to

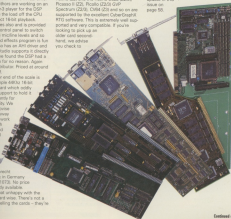
Company contacts

Power Computing:	81 234-851-580
Golden Image:	0181-900-6391
Gordon Harwood:	01 773-636-781
Bittensor:	01900-261-466

see if there's a CyberGraph driver. The original software provided with the Rastex, Spectrum and Picato was particularly dire and will need to be replaced with CyberGraph, available from Bittensor.

The new card from can be summed up quickly as follows: the CyberVision 3D is inexpensive at around £175 but you'll need the scan-doubler module to even watch Amiga video. Otherwise you'll be needing a two monitor setup; it also has some nice MPEG video players and the 3D functions may take off in the future.

The Picasso IV is more expensive at £299 but comes with a built-in Becker laser meaning you only need one VGA style monitor. It also has the edge when it comes to performance. It also uses a different RTG software called Picasso III which is largely CyberGraph compatible anyway. The CyberVision 3D can be obtained from Gordon Harwood while the Picasso IV comes from Bittensor. See the Picasso IV review and CyberVision 3D update in this issue on page 66.



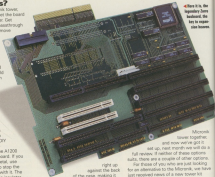
▲ Sound cards, graphics cards, 16 cards – just some of what there has to offer.

Other options?

If you don't fancy the Micronix tower, there are options. You can get the board on its own and fit the tower. Get yourself the busboard and pass-through connector first of all, and remove the motherboard from your computer and connect the two together. You will have to rig up support for the busboard end of the busboard. A small block of wood can be glued to the top of the metal shield around the AIC modulator on the Amiga motherboard; a screw can then pass through the mounting hole in the busboard and into this block. A spacer can be wedged between the two boards at this front end, or a small bracket can be constructed to hold it in place. If you use a bit of a DIY wizard, you might want to produce a module to take the A1200 motherboard and the busboard. If you make your cladding out of metal, use some insulating material to stop the boards coming in contact with it. The A1200 comes with a plastic insulator beneath it, but you will have to rig something up for the busboard.

The tricky bit

At the back of a tower case, you will see a group of horizontal slots. The Zorro boards are meant to align with these slots to allow things to be plugged into them. The addition of the busboard adds about 4 cm to the depth of the motherboard, and many towers are too narrow; cards plugged into the slots will end up beyond the holes. If that wasn't enough of a problem, you will also find that to get a card to fit in the back slot properly, the motherboard will have to be inserted



right up against the back of the case, making it very difficult to connect the rear motherboard sockets.

There are two solutions to this. One is to cut a vertical slot in the back of your towercase for the motherboard sockets to fit through. The other is to cheat. If you want to go for the first and more elegant option, find a case that has plenty of space beside the rear slots, line the motherboard up inside the case in the position it will have to be in for Zorro cards to reach the rear slots and carefully mark out where you will have to cut. Use a fretsaw or a jigsaw with a metal blade and use a metal cutting lubricant. Wedge pieces of wood against the rear plate before you cut it. The more the rear plate is able to flex, the harder time you will have cutting.

How to cheat

The easiest method is to cheat. Mount the motherboard as described last month. Cards are slotted in as normal but do not reach the rear of the case. You will need some additional support for your cards this way. A couple of wooden uprights with small shelves are ideal. Cables are passed through the holes in the back of the case and plugged straight into the cards. Messy, but it works.

Alternatives

We have covered the basics behind installing the Micronix board into a DIY tower, but there are so many variables involved that this can never be any more than a guide. We have also given you an idea of how much work it is to put the

• Here it is, the legendary Zorro busboard, the key to independent towers

Micronix tower together, and now we've got it set up, next month we will do a

full review. If neither of these options suits, there are a couple of other options.

For those of you who are just looking for an alternative to the Micronix, we have just received news of a new tower kit coming from a British company, Intronic Computer Systems. Also designed to work with the Micronix busboard, Intronic's Amiga is a 100 approved metal case with more drive bays than the Micronix and at a slightly lower price. This case went to press at the same time as we did, but we are hoping to get one in for review to go head to head with the Micronix, next month.

Points to the busboard are even rarer. The Axxo bus board, a similar concept but using their own non-standard data bus is currently undergoing patent applications, but promises to bring the advantages of Zorro cards at a fraction of the cost – the plan is to produce the busboard and a graphics card for around £180, under half the price of the cheapest Zorro equivalent. Well, that just about wraps it up for now. ■

A Final Word ...

We are repeating the special offer for the 44-45 pin IDE adapter from part 1. If you had a delay ordering previously, it was because of the phenomenal response – thank you very much – but now stocks are now in life are also trying to track down a source of Amiga power connectors to save you cannibalising your PSU.

We'll be covering this topic further in the future – why not write in and tell us your experiences? Good luck and happy travelling! – Mat & Andrew.

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Taking over the reins of the game coverage from Lisa, I'm bringing you the games section this month, featuring a special previews focus and an interview with Peter Molyneux.

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History of the World Cup **ES**



Real Mystery **ES**



In Escape **ES**



Almagica **ES**



In the Shadow of Time **ES**



The Real Mystery **ES**



Trapped 2 **ES**

ScreenScene

Previews

In a change to the advertised program, our preview pages go into future gaming overload.

There is a sense of doom amongst most Amiga gamers – and I'm not talking about first person perspective shoot 'em up, apps. We've all experienced the gradual decay of the Amiga as a games platform over the last few years, the rise and rise of the computer and the transformation of the PC from a desk-orientated business machine into the world's most expensive games machine, seeming to ring a death knell. The reasons behind this fall from grace are many and varied, but the old story the games companies come up with, that the Amiga is just not up to the task, isn't entirely true – certainly if you have an accelerator and a CD-ROM drive. And just to prove it, we have spent the month plucking out the most exciting prospects in development. Here is a small sample – if you want to believe that Amiga gaming is dead, don't read this.

Airmagica – Solons of a Forgotten World

Type: Dune III/Macraft clone
Developers: DSP
System: TBA
Release: TBA

This spot of real time strategy game is becoming increasingly popular and seems to be something of a hole-in-one amongst Amiga game programming teams. DSP are a Swedish programming team with a lot of ambition. Solons takes the basic form of Dune II but transplants it from a Science Fiction setting into a fantasy one.

Ordering your forces to do anything from cutting down trees to launching full scale attacks on the castles of your foes, you have to find the balance of resources necessary to build up your forces to achieve final victory.

One of the most intriguing things about this game is that it is probably the first Amiga game to

be written with full resizability in mind. Many games now support resizable graphics through the Cybergraphik library to allow you to play them on your graphics card, but this one also supports the AHi system to allow you to resample the sound through a soundboard too.

Brainkiller

Type: Doom clone
Developers: Titan systems
Systems: will require good acceleration for playable speeds.
Release: imminent

There has been a little demo knocking around for the last little while of a doom game called Braindead. In fact you'll see a review of it this month in the PC section. The programming team behind this game has been promising that it would become a commercial release, and here it is. A demo of the game arrived in the office yesterday, and we've had enough of a go on it to



Brain killer

assure you that there is a lot more in the game than there was in the demo. The old favourite punch and kick routine is still there, but there were a whole lot fewer explosions in Braindead than there are in Brainkiller. There's going to be a lot of competition for the crown of Amiga doom clone king over the next few months, and this one is going to be well in there.

Explorer 2260

Type: Space trader simulation
Developers: Digital Anarchy
Software: Chris Page
Systems: 100% strongly recommended, 4mb ram, hard drive
Release: (Don't hold your breath)

This one could well be the game that Frontier 2 might have been. It's still pretty early days for

Explorer 2260 yet, but author Chris Page has some very interesting ideas for his future space trading game. Over 100 ships, thousands of ship upgrades and texture mapped polygons all sound exciting enough, but the epic concepts behind this game are what makes it sound really interesting. Complex political situations can lead to



missions a LOT more complex than 'go and assassinate this bloke on some planet somewhere', even up to interplanetary war. Promotion in rank actually means something, the player can even eventually be put in command of a fleet or space stations. The bulletin board idea of Frontier 2 is easily extended to make the interstellar information network. BAM, a kind of futuristic internet, which the player can actually post their own adverts to.

Some people have pointed out the similarity in concepts behind Explorer 2260 and Babylon 5 – this is not Babylon 5 – the computer game, but the influence is strong and we fans should be very happy indeed.

Final Odyssey

Type: Adventure
Developers: Vulcan
Systems: AGA, CD-ROM
Release: TBA



Vicon made their names with the top-down tactical adventure series *Voltige* (you know what that is), and *Final Odyssey*. These are the Microsoft folks to be a return to their roots. Except that *Final Odyssey* offers graphics to shoot out and more action than the *Voltige* games too.

Forgotten Frontier

Type: Dungeon Crawl

Developer: Chasm Design

System: Minimum VGA, hard disk, CD-ROM, 100MB highly recommended

Release: TBA

One of the game projects attracting the most interest at the moment, *Forgotten Frontier* is real-time action strategy game in the *Command and Conquer* mould, inspired by *Dune II*, the brilliant predecessor to CnC. *Forgotten Frontier* promises to be something really special. The Amiga's hardware is actually very good for this sort of game, and there is no reason why *Command and Conquer* shouldn't be ported to the Amiga, but if this effort from Hungarian programmer Ferenc Javasi and graphic artist Csaba Szekel lives up to the screenshots that have been circulating, we might not need it.

Features include landscapes 18 times as large as in *Dune II*, multiple terrain types, 25 vehicle types, ranged spells, basically everything you would expect from a title to C&C. The author is even asking about implementing TCP/IP modes for network multi-player games. *Forgotten Frontier* will run on most 256-colour

screenmodes and will be CyberSnapX compatible. Fast, assured that as soon as we see a working demo we'll tell you more.

Foundation

Type: Dungeon Brawler, clone

Developer: Paul Butley

System: A 1200 or CD-ROM minimum, 480 highly recommended

Release: End of year?

Originally inspired by *Settlers*, author Paul Butley cites *Warcraft II*, *Command and Conquer* and *Mega-*man as other influences. *Foundation* will display screens up to 640 by 480 and uses disk caching to allow ready access of data to be immediately available. Gameplay features include a massive database of all the people in the kingdom you rule, many different types of building, advanced combat strategies, inventions, attacks and an intricate trading system. You will be able to play against up to three computer players or in split-screen mode against a human and up to two computer players.

The author has been looking for support for this title, a problem that plagues independent programmers, but should have arranged a backer by the time you read this.



Genetic Species

Type: Doom Clone

Developer: Ambrosia / Vulcan

System: A 1200, 2mb, CD-ROM minimum

Release date: 'To soon as possible'

Everyone said it couldn't be done until *Doom*, *Dreadfast*, *Fears* and *A200* proved them wrong. Ambrosia can do doom clones, but this one is a bit different. Previous titles were playing catch up, whereas this one is a genuine Doom beater. OK, so the PC games market has moved onto Quake, but here at least is a Doom game that your Pentium-caring friends will like.

This game really likes a decent setup. Give it a graphics card and an OVR and you have a stunning game. Fast, smooth textures, stunning lighting and fire effects - we're all waiting to see how it pans out when the gameplay is fully implemented. Until then, check out the demo on our CD file that demonstrates around and watch those brilliant light-sourced glowing fire effects.

Hellpigs

Type: Adventure

Developer: Vulcan

System: VGA 2mb RAM CD-ROM drive, VGA and 4MB for floppy

Release: August

The game that persuaded Vulcan to go CD-only, this was originally going to come out in a cut-down version for the floppy customer, but even that would have taken 21 disks!

The Hell Pigs are a seclusive



special forces unit, perhaps even some kind of execution squad. All that you can be sure of is that whereas the wind and unexplained holes, periodic clues, this won't be far behind. With a plot that sounds like a cross between the X-Files and Prey, and graphics that look very interesting indeed, this game could be a real winner. Vulcan certainly think it will be.

In the Shadow of Time

Type: Adventure

System: VGA

Release: TBA

When Mark's leading says he is going to write an adventure game



The CD-ROM revolution

The obvious amongst you will have noticed the frequency with which the word

CD-ROM appears under system requirements. No-one wants to be distorted to about what additions they should have, but there is no doubt that if you want to play games in the future, a CD-ROM drive must be high on your shopping list. You simply can't make games compete on floppy any more. Many of these games simply wouldn't fit on floppy disk - *Hell Pigs* would take 22, *Mega-*man would take 40, *Wynit* would take around 700.



that boots the hell out of Monkey Island, you might feel justified in being a little sceptical. Once you've tried the demo a little, you won't be so sure he isn't going to do it. The game flows very well, the sort of command selection being very intuitive and smooth. The graphics are looking very impressive at the moment, with glorious 256 colour screens running quickly and easily, and very solid animation. It is always however the quality of puzzles and the avoidance of cheesiness in the jokes which makes or breaks an adventure, and on those fronts we will just have to wait and see.

Mynt

Type: Adventure

Developer: ClickBOOM!

System: AGA, 386, 486 and CD-ROM. 343 and 6MB recommended

Release: Summer

Mynt is generally regarded as the greatest CD-ROM adventure of all time, and is repeatedly the biggest selling too. An enormously atmospheric graphical treat, this game attracted millions when it hit the PC and hitac some time back.

The Amiga version is actually the result of an internal loss – a fake demo of an Amiga version appeared on the Amnet about a year ago, and the huge interest this spawned made MYST developers Cyan wonder whether there wasn't room for an Amiga version after all. ClickBOOM! stepped in, with an offer for the licence and are rushing it out for the summer. This is presumably because Cyan want it to coincide with the publicity for the forthcoming River, the five CD epic sequel to Mynt, which ClickBOOM! will no doubt also convert if interest is high enough. Maybe we should start spreading rumours of an Amiga version of TRX!

Trapped 2

Developer: Ceylon

System: AGA, 386, CD-ROM drive minimum. 330MHz, 16MB recommended. Graft and Puffin '98 support

Release: Summer

Wait a minute. Trapped 2? Whatever happened to Trapped 1? Well you may have seen a demo of it on a recent ClixCD CD-ROM, but this commercial game from Germany has, as is something of a trend with German games, never been released over here. This is something that Clix Amiga intends to do something about, and well assured we will be begging some of the big UK software houses about porting this little beauty up.

Trapped 1 was an RPG with a Doom engine. And what a doom engine it was. Fast and smooth and very atmospheric. Trapped 1 had some truly impressive features, such as some excellent light sourcing routines, and if you want to impress the hell out of anyone, just wander past a light source and show them that lens flare!

Now if Trapped 2 is so exciting, what can Trapped 2 be like? Well if your machine is up to the task, try out the demo on this month's



CD and prepare to be blown away. This game is going to be HUGE. While most of its rivals are still struggling to match the chunky old style of Doom, this game is doing the kind of advanced 3D of the most up-to-date first person games on the PC or PlayStation: proper 3D graphics, excellent textures, full light sourcing and genuinely 3D polygon based monsters. There is of course a down side – the fastest Amiga on the planet is only as good as a very low end Pentium PC for rendering 3D polygons, and while this is just about playable on an 030, an 060 and graphics card is really called for.

What would make this game would be a PowerPC version to go with Phase1's PowerVR cards – it would probably sell a few of the cards, too.

Wendetta

Type: Shoot 'em up

Developer: Vortex Design

System: AGA, CD-ROM

Release: Imminent

This shooter has been on release in Germany for a while now, and before have just picked it up for distribution in the UK. Wendetta played from two viewpoints, one is standard horizontal (Rings view) the other the kind of swivly 3D tunnel effect that we've seen in demos for years and always wondered why it never appeared in games.

The most impressive thing about this game is that it manages to be in the fast moving shooter action of yore with bang up to date 3D rendered graphics. Very nice to look at, and the precision we've seen seems like a satisfying shoot 'em up too. ■

Andrew Korm



The History of the World Cup



■ Price: £14.99 incl P&P ■ Publisher: WiseDome Ltd. ☎ 0171 702 9823

CD-ROMs are the future of Amiga entertainment - and here's one that will keep Amiga owning football fans entertained for hours.

G WiseDome's History of the World Cup CD-ROM is not one of those all-platform affairs where the data is there but the presentation is secondary. This is an Amiga-specific title, written using the Can Go multimedia system. An intuitive system of buttons and menus allows you to find your way through the disc with ease, and supports all the navigational freedom you would expect.



with the casual browser in mind. You can

Calling Statto

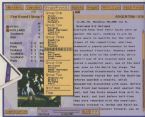
Containing reams of information about every World Cup tournament, there is a danger that a project like this would end up being a CD-ROM equivalent of those impenetrable, phonebook-thick football factbooks that football addicts have lying around their houses. However, this one is designed

to examine the information by year, reading write-ups of every single match, or you can examine the performance of individual countries over the history of the tournament.

The multimedia capabilities of the CD-ROM format have not been ignored. The hundreds of pictures can be viewed alongside a caption to give them context, or displayed in glorious full-screen HiRes. The database of images can be sorted through in several different ways, but there is a noticeable lack of integration here. It would be nice if selecting the overview text for a particular tournament or selecting a biography of a particular player opened an appropriate image or two to pop up. On the audio front, there is around three hours of sampled voice overs. Using samples saved

in space at the cost of sound quality, but it makes a good change from reading all the overviews.

There are all sorts of ways this could have been better. The use of voice overs is a nice idea, but a little sterile. Some use of



▲ Following England and the Turkey they're progress in the 1930 World Cup.

relevant samples - crowd roars, commentary, and so on - would have added a lot of atmosphere. A cross-referencing database would have been a nice touch - we decided to look for the largest score in any world cup match, but the only way of doing this was to search through them all. Niggling points like this mean that this CD-ROM is more the browser's encyclopedia than the ultimate reference.

Gooooaaal!

The History of the World Cup CD-ROM is almost frighteningly well researched. The text is well written, concise enough to avoid boring the reader while remaining very informative. The archive of



images is impressive, and WiseDome have even managed to find pictures dating back to the very beginning. For about the same cost as a book on the subject, this disc offers you a lot more in a very friendly format, and goes to show there's more to CD-ROM than clipart collections.

Andrew Horn

HISTORY OF THE WORLD CUP

- worldwide version none
- number of disks CD-ROM
- HiRes none
- text and graphics none

graphics	80%
sound	80%
navigation	95%
playability	95%

VERDICT
A football fan's delight.

90%



Castle Kingdoms

■ Price: £12.99 (incl P&P) ■ Publisher: Mutation Software ☎ 01705 672616

Gauntlet twisted into an isometric perspective? The classic coin-op is updated with Mutation's latest offering.



Think... yes indeedly we do recall old Gauntlet's reputation as an arcade adventure called Gauntlet which was in its time the most frenetic multi-player game since the invention of the joystick.

Dungeons and Dragons fans are without perspective, Gauntlet allowed up to four gamers at the same time to adopt the role of Dwarf, Elf, Elf or Priest and charge around complex maze fighting assorted castles while collecting food and potions. Amiga gamers were hoping that when the Amiga version of the game finally came out, it would be totally faithful to the original colour. Alas, our wait was never equal. All those years on and a game appears which looks like Gauntlet's great grandson. Could



▲ Enter the like castle and seek the supplies.

it recapture that old excitement? Enough of my nostalgia, let's get on and discuss Castle Kingdoms.

Gemstones

The game world of Castle Kingdoms is divided into five distinct sections, or castles. In a throwback to the classic RPG plot lines of the past, the aim is to recover the five mystical gemstones, hidden within each castle kingdom, that form a powerful

magic talisman. Leading a party of five adventurers - Knight, Priest, Warrior, Elf and Wizard - you have to fight your way through the hordes of demonic creatures that are let loose upon you. As you penetrate the castle's defences, you find potions and spells which you can pick up and use to your own advantage.

Lemming devils

The graphics are stylistically somewhere between the late Japanese RPG style of Zelda and the distinctive race of little people that populate Sensible Software games. The isometric layout of the mazes works very nicely and is full of atmosphere, although the graphics aren't in the same league as the likes of Draco Engine 2, and the over-fused perspective can be confusing.

Castle Kingdoms is easy to get into and flows well enough, but lacks weight. There is no multi-player option, which is a real con-



sider. It was in multi-player mode that the original Gauntlet really shone. Multi-player modes can turn an otherwise ordinary game into a masterpiece, and a game like this just cries out for it.

The rather limited 'Intelligence' of your foes means they have a tendency to run around rather more like slightly enflamed chickens than flesh-and-blood. The level of challenge they provide is fairly modest. Progressing through the levels gives you little feeling that you're moving forwards so much as sideways, the castles differing a bit in colour but not much anywhere else.

Castle Kingdoms is an average game, but very too easy and far too repetitive for the seasoned Amiga games player. I managed to make it my way to the end on my first game. That in itself is its biggest stumbling block. Even though it is quite cheap, any game needs to present some kind of challenge. Even so, it could be worth a look if you specifically need a game that's not too taxing, maybe for very young kids. ■

Mark Forbes

CASTLE KINGDOMS

● soundtrack voice all
● music of disk all
● ROM 100%
● final state available yes

graphics 80%
game 50%
playability 80%
playability 80%

DETAILS
24 for the 16
player Amiga
game play

60%



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Reach for the stars

He invented a whole new type of computer game and his name sounds like a food blender: Peter Molyneux gets the star treatment.



Name: Peter Molyneux
Age: 37
Born: Fleet
Occupation: Game Developer, Bullfrog Productions.
Biggest Successes: Populous, Populous: The Great Wars...
Populous 2, Syndicate, Theme Park, Syndicate Wars...

Q: Tell us how Bullfrog Productions began.

PM: Initially Bullfrog was created by myself and Les Edgar in 1989 for games players by games players, although we actually started a business producing data-bases and account packages for the Amiga. After a couple of low-key games projects, Les and I felt ready to create a game which would be unlike anything else then available. The inspiration for Populous was partly derived from our previous foray into business software, through our understanding of the Amiga's capabilities, we were able to create the artificial intelligence engine which, although it has been refined and improved, still forms the foundation of all Bullfrog programs to this day.

"To be totally honest, the main reason we worked on the Amiga was because we were given several free..."

Q: Did you realise the seminal nature of Populous during its development?

PM: Although I realise now that Populous has created a new genre of game, at the time I was working on it I had no idea that



this was what I was doing. I was just working on a game that I wanted to play. In fact I was nervous that it mightn't be what it was any good at all.

Our offices were visited by a journalist who was going to do the first review of Populous and after he had played the game we went down the pub. After a few pints I plucked up the courage to ask him what he thought of Populous and he replied that he thought it was the best game he had ever played. My first thought was that I must never let him play the game again, as I was convinced it he saw it again he would realise that his initial impressions had been mistaken.

Q: What are your personal favourite Amiga games?

PM: Dungeon Master and Speedball.

Q: Do you think the rise of the new game consoles has had a detrimental effect on the quality of contemporary games?

PM: Yes, I do think it is tragic that from the glory heights of the mid-eighties when one in every four homes had a home computer, and therefore there was a wealth of bedroom programmers, that today there are so few. Nowadays it's just too expensive for people to develop games in this way on the consoles and on PCs which is a great shame.



Q: If the Amiga was to get back on track as a mass market entertainment computer, would you consider developing games for it?

PM: Of course I would, but in saying that, it's obvious to me that in order for the Amiga to regain its former status it needs a very big push - its great strength has always been its accessibility and this coupled with a very significant upgrade in technology could make the machine more interesting for developers like myself.

Q: What was it about the Amiga that made it your first choice?

PM: To be totally honest one of the main reasons we worked on the Amiga was because we were given several free machines by Commodore - but also at the time it seemed to be the machine without bounds. It had great graphics, good sound and was technically miles ahead of anything else around at that time.

Q: Would you consider making available the source code for Syndicate Wars, so that it could be converted to the Amiga?

PM: Yes, definitely because I don't see any real reasons or problems why we couldn't do that. After all we have no secrets in things to hide from anybody. ■

Mark Forbes

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More tips and cheats to spoil your gaming fun, with an exclusive barrel of codes for Worms TDC straight from the programmer's mouth.

WORMS TDC

Worms' creator Andy Davidson has kindly supplied us with a team of (secret) codes for Worms The Developer's Cup. Now we can see why the game was delayed so long... And, safe as these are (it's a lot of the latest codes included in the game, so we'll budget him for some more for the next issue), all of these codes should be typed in exactly as they appear here.

On the title screen

JAMIE AND HIS MAGIC TORCH

Special weapons on/off

SUPA SHOPPA

Weapon crates placed on landscape instead of mines

RED BULL

Worms can jump higher, punch harder...

PESTILENCE (Apocalypse Mode)

Worms burn when they die

LITTLE RUFFLY SHEEP (Sheep Mode)

Shedding all stats liberates a sheep

(Unlimited fun with Super Sheep)

TOTAL WORMAGE (Nostalgia Mode)

Original Total Wormage logic in panel

Weapon names put back to original names

NUTTER

All weapons, even each shot of an Uzi, do the damage of dynamite

MAGICAL MYSTERY TOUR (Mystery Mode)

Worm names aren't displayed

KARTONS APA (Monkey Model)

Worms names translated into Swedish!

Kenny-on-a-Rope!

OMNIPOTENT BLUE WORM (God Mode)

Worms aren't damaged by shots

All worms can walk on water

ARTILLERY

Worms can't walk, or jump.

POW! Mouse pointer can fire grenade around

MAGNET! Grenade attracted to nearest pole

GRAVITY! Grenade affected by gravity

BETONG AGNA (Donkey Model - Concrete

Donkey on title screen)

BORG! Red's white Arnie hat on title screen

MUSIC! Title screen music on/off

WORMS! Worms title screen colours

VERSION! Display version number

CHIRPAM! Display free chirpam

ANDY

TONY

REBURN

LA CHORDA HONDURAS

THE

FIXE

SEN HUTCHINGS

AMIGA

CHIEF

Landscape generator bits

LOW: Low water level (default)

MEDIUM: Medium water level

HIGH: High water level

WORLD: World landscape

NORMAL: Normal landscapes

MAP1: Play last level again

CLUSTON: Pick random custom level

GRAFFITI: Pick random graffiti level

FOREST: Only generate Forest levels

CAVERN: Only generate cavern levels

FOREST CAVERN: Only generate Forest

cavern levels

ALL: Generate all levels

BANSHEE

This tip cheat, along with all the following tips on this page, comes from Keith Kestelatz. For those with the AGA disk version, type **FLYNT** and press Return whilst on the title screen. You will now have infinite lives and be able to skip levels using the function keys. The screen will flash to let you know it's worked.

Alternatively type **I AM EQUUSTELY EVIL**, then press Return whilst on the title screen or during the intro. This will change the names on the high score table and you can now kill polar bears and people (if you're that way inclined). Once again, the screen will flash to confirm you've entered the cheat correctly.

Good Banshee players can do the same as above by entering **KAWLADE KORD** on the high score table to make the infinite lives level skip cheat, using the top keypad buttons to jump levels. To do the polar bear thing, enter **MAINY WHIRLSHOUT** on the high score table.

BUBBLE AND SQUEAK AGA

Enter any of the following four passwords for various benefits:

WIFFERBEE: 9 guy and 9 hearts

MAXIMAFY: a new difficulty setting

SUTHELD: infinite hearts and lives

WHO CARES: a message from the

programmer

GHOSTS & GOBLINS

A cheat if ever there was one. Dig it out and enter your name as "G" to make yourself invincible, but you'll still lose your spirit if you get hit (we couldn't find a copy in test files, so you may have to leave out the question mark). Also try typing **DELECY** on the title screen for the same result.

PARASOL STARS

Press the right mouse button to skip to the next level. During the game, type **A WORD** to activate the cheat mode. If this doesn't work, try typing **CYMB** instead (nothing will happen until you use one of the following cheats).

Now use the following keys:

W - get all three stars

T - end the stage

Q - all all bodies

1-7 - skip to that stage

Q - extra credit

F1-F10 - skip to that level

D - die buty useful

B - skip to bonus screen

N - skip to extra level

To find the hidden world, whilst on level three, hit all three candles in the box. Some body in green poppers will appear. Collect them and you'll be whisked off to the secret level.

When in Ocean World on the fourth level, catch all the fishes and get the purple heart in the top left corner (if there is one). Get all three green fruits and you'll be transported to the last world.

Get yer free games!

So you've got some decent tips here you? We'll see about that. The best tipster each month is entitled to a randomly selected



mystery Hit Squad game, so don't keep 'em to yourself! Doubled adventures on the other hand, are written in to Adventure Helpline, CU Amiga, 33-39 Wilkesboro, Isle of Dogs, London E14 6TE.

Indiana Jones and the Last Crusade

In the popcorn, I keep getting stuck at the ticket collector (who, with not having enough money to buy a ticket and all that). Presumably it's got something to do with the travel pass, but without anyone to sign it, it's not much use.

Jim O'Connor, Co. Antrim

You don't exactly have to get on the topdeck, but if you do, as you proceed you will need the travel pass signed. In this case, before you get to the airport you need to make a trip to Dublin, where you can get it signed by Father himself. At the airport, get Henry to chat to the man with the newspaper while you pick his pocket. Alternatively, pick up the book about how to fly a plane from the library, and you can then stand the ticketless from the airport instead.

Future Wars

I've just got the hang of Future Wars, which I picked up at a local car boot sale recently. I've worked out how to use the time machine and returned to the Medieval era, but once I get there I get beaten when I get to the muddy village and beaten up by monks at that!

John Young, Buxton, Leics

When it comes to the thing is, you're still dressed in jeans and trainers, which as a Medieval monk probably looks like the apparel of Satan. The trick is to go back to the river bank, climb the tree, wait for one of the monks to come along for a drink, then jump into his clothes while he's in the water.

Leisure Suit Larry III

I've been wrestling with this lewd little adventure for a while, but I'm having trouble getting the combination for the lock on Suzi's locker in the sports club. I've made a heap of the writing on the back of the keyboard, but I'm still no further down the line.

Ron Higginbottom, Milton Keynes



Indiana Jones and the Temple of Doom

This is a bit trickier than you might have hoped for, but here goes. Open the magazine which came with the game manual, search the pages until you find the adverts for the three firms listed on the back of the keyboard. Take a note of each of the page numbers (making each one into a two digit number by adding a zero in front of any single page numbers). Now place the numbers together and you'll have the six number combination.

Legend of Kyrandia

I've made a fair bit of progress in the game: I've got all the rocks, a gold coin, two emeralds and I've just beaten Malocoin. However, now I'm stuck in the caves. Is it something to do with the Twilight Puzzle?

Richard Porter, Fife

It's the gold coin that will get you out of this situation. As this is quite an easy game and you wouldn't want to spoil it for you, let's just say "we wish you well". Think about it.

Police Quest III

I've spent far too long driving around trying to find the industrial estate, but then my map reading was never up to much. What's the secret?



Monkey Island

Terry Whitcott, Leicester

This is a simple one. The industrial estate is on 329 South Second Street, as it says on the map!

Operation Stealth

Can you help me with Operation Stealth?

I know it's a bit odd, but I've just got back into adventure games and I found this at the bottom of my collection. I've got through the set maze, beat up the guard, given the man water and swapped the security stamps, but I can't get up the fingerprint-controlled elevator.

Simon Duff, Penzance

Your prints obviously don't work, so you need to find some that do. Go to the guard's shower room and pick up the empty glass. This has the guard's prints on it, which you can lift off with the oil of the cigarettes in your top left. First you'll need to empty the inkblots from the cigarettes, then use the paper to take a copy of the prints from the glass. You can then use the paper to activate the lift.

Monkey Island

Just when I thought I was cruising through Monkey Island (and pun intended) the crew of my ship has turned against me. I've tried to please them but they just don't seem to want to listen or take orders. Do you have any tips for whipping them back into shape?

Miguel Hyde, Falkstone

You could try going on a management course (they're the answer to everything, as I'm told). Alternatively, climb the rope ladder and get the flag. Go down into the hold and get the rope and blow wire from the chest. Pull up the dogs to get the gaspander. Go to the gallery, pick up the pot and open the cupboard to get the coral. Open the coral and inside you'll find a prize (a dog). Use this to open the chest to get the diamonds and the recipe. Go to the gallery and use everything according to the recipe on the cooking pot. When you regain consciousness, use the business card Stan gave you on the fire, then get some more gaspander. That should be enough for now! ■



Depth isn't the word! We've put so much time into researching and testing this gear, you nearly got your magazine a week late this month! Go on then, get stuck in.

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Two new big PC emulator packages go head to head in a serious test to which both are put through the mill.

54 Turbo Print 5

Today's 24-bit high resolution printers are way ahead of the Windows printer preferences - Turbo Print to the rescue!

58 Picasso IV

It could just be the best graphics card ever... we give it a good testing a score through speed benchmark tests.

60 Cybervision 3D Update

Now that Picasso IV has arrived and Cybervision has had a price cut, we take a second look at this sleek graphics card.

61 Net Connect

If you need to get netted on one CD? It sounds obvious, but until now we've had managed to pull it off.

62 Buffered IDE Splitter

Now that the world and his dog wants to attach more IDE peripherals, we check out the safest interface option.

62 Catweasel

Edge floppy disk drives have always been non-standard, so it's about time we saw a device to allow connection of PD HD floppies.

63 Make CD

Can you tell what it is yet? It makes CDs of course. It looks like the most effective CD burning software, but is it really the best for jobs?

64 PD Scene

It's just like the 'old days' over in PD scene, with all kinds of wacky games, animations and other stuff being released.

67 PD Utilities

See more, a varied bunch of tools and oddities, including some English language and physics tutors, plus a satellite TV guide.

70 CD-ROM Scene

Cartoon clipart, sound effects samples, the Epic Encyclopaedia and all more bits and pieces go spinning round our CD drives.

72 Art Gallery

Some of the best readers artwork yet goes on show in the art gallery this month, from renders to hand drawn masterpieces.



TechScene

With the two leading PC emulators receiving updates almost simultaneously, have they finally bridged the PC-Amiga gap? We put PCx head to head with PC-Task to bring you the answer.

No matter how strong your allegiance to the Amiga is, the sheer numbers of the PC computing world mean that it's just possible that you have a decent reason for needing or wanting to access PC files and programs.

For years now, Amiga users have had recourse to CrossDOS to get painless access to PC formatted floppy disks, even PC formatted hard drives and removable media. But just taking the data is one thing, doing something useful with it is something else entirely.

That's where PCx and PC-Task come in. They're the latest version of the Amiga's current leading edge PC emulators. PCx is based on the former Emulant PC code and offers emulation of the Intel Pentium instruction set, while PC-Task 4.1 offers emulation of the x86 instruction set. More importantly, both have been optimized for speed using new methods of emulation where PC code is partially translated into Amiga 68040 code before being run, which can result in some major speed gains.

Stage setting

Traditionally, the PC has run using Intel processors, starting with the 8088 and 8088 and progressing to the Pentium and Pentium Pro

chips. The PC's memory comes in an initial 640k block, followed by optional megabytes of "extended" and "expanded" memory, two different ways to address memory beyond the initial 640k barrier, which require different drivers, just to get access to the memory. PCs use a variety of graphic cards to generate display — these days, graphics cards are of the "SVGA" variety, roughly comparable to although often much faster than the current crop of Amiga 640k display cards. But many PC programs, including the DOS operating system that is almost inescapable, still use old low-color, low-resolution and text modes, more comparable to basic Amiga native video output.

The tough PC equivalent to the Amiga Kickstart is the BIOS, and both PC-Task and PCx provide a built-in BIOS. Emulant PC required users to obtain their own BIOS for a time, but PCx includes its own. PC-Task has always included a custom BIOS. However, to get anywhere, you'll need an operating system for the PC. Unlike the Amiga, where there is only one choice for the end user (AmigaOS 3.1 is the only real upgrade path), there are a few choices to make. The most obvious is to run Microsoft DOS 6 and, if you've got the system specifications to handle it, Microsoft Windows 3.1.

PCx 1.1 VS

■ Price: £48.95 ■ Developer: Microcode Solutions
■ Published Worldwide: Blittersoft ☎ 01908 261 466



▲ Starflight II, a classic on any platform.

Windows 95, the most recent Microsoft OS, is not currently supported by either emulator. There are some alternatives, however. There are a couple of competing DOSes for the PC, namely PC DOS from IBM and DR DOS, now known as Novell DOS. DOS of any flavor is typically cheap these days in the age of Windows 95, a standalone DOS is not in high demand.

386, 486, P90?

What does it mean to you that PCx and PC-Task emulate different processors (the Pentium vs. the 486, respectively)? In truth, very little. As we'll see, the emulation speed on even the latest Amiga does not really threaten fast 486 performance, let alone Pentium performance. The only real significance is that PCx's Pentium emulation would allow you access to a program which might have been specifically written for the Pentium — but again, not necessarily at Pentium speeds. The most notable recent examples are games that require the Pentium processor, but most of these also require features that neither emulator can offer, such as 3D acceleration, the Windows 95 operating system.

PC-Task and PCx have similar minimum system configurations. But as with all emulation, the more raw horsepower you can

offer, the better, particularly when it comes to resource-hungry PC emulation. You absolutely need at least 80000 AmigaOS 2.04 or better and 2-3 megs of fast RAM. PC-Task can theoretically be run with out a hard drive, but PC emulation is inherently limited solely from floppies. A hard drive with a good amount of space free, preferably unpartitioned space, is essential for getting any serious work or play done. Furthermore, for PCx an FPU is recommended to allow access to the Pentium FPU instruction set.

My test system is an Amiga 4000T running with an 80000 on a CyberStorm Mark II, with 32 megs of fast RAM and a CyberVision 6400 graphics board. No graphics pulled here.

Both PC-Task and PCx are compatible with the 68060 processor. If you've been looking for an excuse to get an 68060 accelerated PC emulation is a pretty good one.

PC-Task and PCx both take advantage of the AGA chipset, which will give you access to the PC's 256 color VGA modes. Both emulators will also take advantage of graphics boards running common software such as CyberGraphX (recommended). However, as of writing this, PCx was far more limited in this respect, only allowing you to produce a single mode to a

PC 4.1.1 Copyright © 1995 by Microcode Solutions
Written for use in the PC on Amiga
Registered Serial #99881

Ami Processor	68060	Ami Memory	1000
Ami Monitor	Internal	Ami Hard Drive	1000
Ami Keyboard	64	Ami Floppy Drive	200
Ami Mouse	64	Ami CD-ROM Drive	None
Ami Sound Card	None	Ami Parallel Port	None
Ami Network Card	None	Ami Serial Port	None

Setting BIOS...

PCx 1.1.1 - Amiga PCx 1.1.1
Copyright © 1995 by Microcode Solutions

▲ PCx's test screen. The window colors are set to the palette of graphic design.

PC-Task 4.1

■ Price: £69.99 ■ Developer: Chris Haines ■ Publisher: Quasar
 ■ UK Supplier: Wizard Developments ☎ 01322 527 800



PC-Task 4.1.0. Copyright 1992-97 Chris Haines. All rights reserved.

This is a commercial product published by:
 Quasar Distribution, P.O. Box 101, Vermont, VIC 3133, Australia.
 Tel +61 3 9887 3411 Fax +61 3 9887 3311
 Internet: pc4us@compuserve.com.au http://www.compuserve.com.au/~pc4us/

It quit gives the Nightingale-161 (or use PC7001.EXE).

Processor: 80486 Conventional Memory: 640K Extended Memory: 6144K
 Virtual: Location 54776000 allocated 7164K
 Drive 0 is: 300
 Drive 1 is: Unavailable
 Drive 2 is: not
 Drive 3 is: Unavailable

Starting PC-Task...

▲ PC-Task 4.1 starting up. Note that you can use two floppies and two hard drive partitions at the same time.

Colorful screen, namely the 640x480x256-color VGA mode, together with a number of games, including Doom. PC-Task, on the other hand, allows you to set any of the many PC screens to display on your graphics card. PC-Task also allows you to promote to a fullscreen window, best for interactive or if you're running a test application that you need to keep an eye on.

Drive partitions

To set up a hard drive partition, go on to one of two routes. The first is the "hardfile" screen, you'll see earlier incarnations of PC-Task as well as in the Emerald Isle and ShapeShifter Macintosh versions. This creates a large single-DOS file, several megas in length (as big as you want, up to a certain limit, usually around 32 megas). This is the easy way to go. You've already partitioned all of the space on your hard drives. However, it is also very slow, and will need to allocate a significant portion of your Amiga's memory to a hard drive buffer for the partitioning process.

tion it's an joy to get acceptable performance.

On the other hand, if you've got some unallocated space on your hard drive or don't mind the effort it will take to reformat your drive, you can assign a stand-alone hard drive partition to the emulators. This allows for

much faster access times from within the emulators.

Not necessary, but HIGHLY recommended are either a high-density floppy drive, a CD-ROM drive, or both. The PC software that doesn't come on high-density floppies comes on CD-ROM, and it's very difficult to find PC software

PC emulation

To make PC emulation tolerably fast, both programs use advanced emulation methods. In PC-Task, you choose between two versions of the program: PC-Task Dynamic and PC-Task Interactive. The latter works as other versions of the program did, taking PC instructions as they come, translating them to work on the Amiga, then translating the results back. Results, but slow.

Dynamic recompilation buffers a certain amount of code and changes larger chunks at a time into

68000-series code. This is faster in the long run but takes up more memory (you can assign a cache ranging from 512K in size to a large proportion of your PC system memory) and results in programs that are slower to start up (as they are loaded and converted).

PCo has two methods - a "transcription" mode similar in concept to PC-Task's Dynamic recompilation, but with a cache maximum of 1 meg, and a "Turbo Level". The Turbo option is handsily explained at all in PCo's

▲ Emulated should have less detail in the help. Not even the graphics.

man or double density (these days. Whatever route you have to take, if you're serious about PC emulation you should really be armed with these two items.

What You'll Get

This is of course the tricky question. Presuming you meet and hopefully exceed the minimum specifications, you'll have a PC running on your Amiga, with whatever amount of RAM you allocate to it, ready to run your applications. (A note here: PCs require memory to come out of a single contiguous block, and it's advisable that you use your fastest memory. In my case, this was the Cybertek's.)

You'll first want to install a DOS, which will be somewhat time consuming, not necessarily because of the speed of the emulation on your system but because meeting a high-density PC floppy on the Amiga is a slow proposition - already, meeting high-density causes a 50% speed hit on the floppy drive, and the PC data needs a bit slower than Amiga data.

Once that's done, the PC world is your oyster, albeit not a 100% compatible oyster. PCs and PC-Task do not claim to be fully com-

mand, they simply tell you that setting it to "1" or "2" may get faster emulation for certain enhanced-protected mode DOS programs.

(Levels 3 through 7 on this list are not documented.) All of this sounds wonderful, doesn't it? The bottom line is this: Yes, the transcription and Dynamic options do typically get you faster emulation, although you are notified in the manuals that it may actually slow things down. Just keep this in mind and don't be afraid to experiment.

Turbo Print 5



■ Price: £49.95 ■ Developer: InseeSoft ■ Supplier: Wizard Developments © 01332 527800

The photo-realistic printers now available demand drivers to match, and Turbo Print is just the job.

Printers are getting better as each year goes by and although the standard Amiga printer preferences functions continue to stand still, there are some publishers like InseeSoft who keep coming up with ways of making sure the Amiga doesn't get left behind when it comes to printer output.

InseeSoft, in case you don't know, are the people behind TurboPrint 5, a package as good that the quality being emitted from my Epson Stylus 800 is almost as good as that from my PC. I did say almost as good, but I'm sure I'll be able to change that to "as good" when InseeSoft update the printer drivers in version 6 to support the latest Epson 880. It already supports the latest Canon and Hewlett-Packard printers.

TurboPrint 5 is a print enhancement package on the Amiga, one of two, with the other being Studio II Professional which is now up to version 2.14. The TurboPrint 5 package is made up of three main components: printer drivers, the printer preferences panel and a picture printing application called the Graphics Publisher.

Do you need it?

Let's hope first, at why you need a printing enhancement package. The printer drivers and printer preferences functions on the Amiga have not changed since the days when 4096 colours was a revolution in home computers. These days, 24-bit is the norm and new printers like those from Hewlett-Packard, Epson and Canon, are now capable of producing photo-realistic imagery. Unfortunately, the Amiga doesn't come with printer drivers that will drive these new printers. Nothing really wrong there



▲ The Graphics Publisher supports dot-coding so you don't need lots of memory.

because even my version of Windows 95 doesn't have the latest drivers. The difference is however, that printer manufacturers just don't see the point in developing drivers for the Amiga while they do, however, create drivers for PC and Macintosh owners.

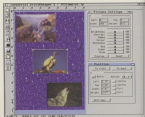
The reason is money. Only one manufacturer I know of actively develops Amiga drivers (Canon) and even then the free driver you get is not fully functioning. Also you need to get the upgrade from the author, for what is not a very large sum of money (\$20).

So, in the main, it's down to third parties like InseeSoft to develop new printer drivers so that we can use the latest printers on our Amigas. The printer driver alone though doesn't solve the whole problem.

Turbo Prefs

Hand-in-hand with a printer driver comes the ability to control the output, and for that you need a set of preferences for changing colour balance, resolution, paper size and so on.

The standard Amiga preferences for this are nothing more than a joke. Ancient, old fashioned and definitely useless. Preferences on the Amiga also serve a printer device that is



▲ The Graphics Publisher enables you to save more than one image as a piece of paper. As well as adjusting the position of the images, the colour balance can also be changed.

equally useless, being restricted to 4096 colours or 12 bit. We need 24-bit and that's where TurboPrint comes in.

Why do we need 24-bit? Well, let's take printing a gradient which is where most applications come undone. A gradient can have up to 256 shades of a colour but the printer device only supports 10 colours for Red, Green and Blue, (10x10x10=1000). This is why the printer device is near to useless.

Unlike Studio II, which performs miracles in working with the Amiga printer device, TurboPrint comes with its own preferences saving its own 24-bit printer device. This means the program is in effect patching the system, but as it seems to work so well these days, I don't think anyone really cares how it

does it, so long as it comes up with the goods, which it does.

Picture Perfect

The appeal of having its own printer device is that Turbo Print can output in 24-bit from its own picture printing application (Graphics Publisher).

The Graphics Publisher is supplied as you can print bitmapped pictures. Basically anything you can produce will be reproduced in all its glory if you use the Graphics Publisher. This is because the Graphics Publisher is printing direct to its own printer device and is not reducing the number of printed colours, which is what most normal Amiga applications do.

What makes the Graphics Publisher different from previous

Upgrading from 4.1

We've had quite a number of people asking if it's worth upgrading from TurboPrint 4.1 to version 5. The answer depends on a number of factors which I'll outline now. Version 5 comes with new drivers and so if your printer is not yet supported in 4.1 but is in 5 then upgrade. If you print lots of pictures, and regularly have more than one on a page, then the Graphics Publisher will be very useful. Other than that, there isn't a great deal different between versions except for some tweaks here and there.

Picasso IV



■ Price: £299 ■ Developer: VillageTronic ■ <http://www.villageTronic.com>
 ■ Supplier: Bittersoft © 01908 261466 ■ <http://bittersoft.wildnet.co.uk>

CyberVision may have stolen its thunder, but the Picasso IV graphics card could well be the best ever.

The Amiga's most popular Zero II graphics card must surely have been VillageTronic's Picasso II. The success that it enjoyed kick-started the market for third-party graphics cards for the Amiga. Like other cards of the era such as the Raine and QVP Spectrum, it was based on the PC SVGA Cirrus Logic 5428 chip. After a long break from Amiga development, VillageTronic have finally released the successor in the form of the Picasso IV.

There's quite a few major additions to the Picasso IV functionally-wise. Firstly, it's a dual Zero II and IIx autostereoscopy card. That means it's significantly faster on A2008 and A4008 machines but still works in the A1600 and A2000. Probably the most impressive feature, however, is the addition of a flicker fix into the design as standard. Since the

Picasso IV requires a video slot in an A2000/A200, there's no extra loop-through cables. It's just plug in, connect to any SVGA monitor and absolutely every Amiga display made from the new Picasso modes is the most handsome AmOS hardware-banging game, will display perfectly.

Flicker fixing

The flicker fix negates the need for a multiscan monitor. The A2000 doesn't have a video slot in line with a Zero slot but VillageTronic have come up with a unique solution. The PCB around the video slot section of the card is perforated. That's right, you can actually snap off a segment of PCB and plug it into the video slot. The jumpers provided then connect with cables to route the video slot to the Picasso IV. Scans stuff, but it actually works providing you're careful.

Physically the card is far busier with silicon than Phase II's much smaller and less populated CyberVision 3D. It's also bristling with jumpers and feature connectors. A new Pable video encoder is planned for the card as is an MPEG decoder board. These additions would be fantastic if they arrive but from past experience, manufacturers rarely see it as worthwhile to release them.

You don't stick a £300 card in an Amiga for a flicker fix alone. What we really want is the new high resolution and high speed display and it's in this area that the Picasso IV excels. Opting to stay with the Cirrus single, rather than the £3 "1600" chip set as used on the CyberVision 3D, at most just 64-bit 5446 is used for the Picasso IV. Coupled with 4MB of EDO (Extended Data Card) RAM as standard, the Picasso IV is quite capable of driving absolutely outrageous resolutions up to 1600 x 1200 pixels in 16-bit (65,536) colours. Whether your monitor can handle that is another issue, but it gives you one hell of a display that just doesn't compare to AGA modes.



▲ Superbly detailed Picasso IV is all in its 16-bit and 1600x1200 pixel glory

Scan rate

Sadly, even the Picasso IV's side chip-set shows up AGA for computer displays (rather than video). An 800 x 600 256 colour screen zips about, faster than a much smaller and less colourful AGA screen. You also have the luxury of not tying up the Amiga's custom chipset DMA with Multiscan Productivity or D95.Hal, slowing everything to a crawl. A much underrated boon of a graphics card is an increase in the scan rate. Flicker fixers and eye fatigue is reduced.

Take it from someone who works in front of a computer all day, the Amiga's 50Hz is NOT good for this.

The Picasso IV's display is more of the same but better. It's a much faster than even an old graphics board many would find it a massive improvement over the older card's 60Hz generation. It's even faster than the older card's 60Hz modes while in 256-colour



▲ Multitasking in 1624 x 1184 allows for more windows and activity on the screen than is truly possible. It's a lot faster than AGA too.



▲ Lode Runner is happy to run on a resolution screen so that the pictures aren't limited to 256 colours.



▲ In our best image-rendering test at 1024 x 768, a colour display is barely practical with Mac resolution unless you have a graphics board. The Picasso IV is just the ticket.

I tested a use 16-bit displays which are outrageously quick but as colourful as the more indistinguishable from 24-bit.

It's about now that we get into the real crux of the matter when running a graphics card: the all important RTG (Renderable Target) software which vendages into the Amiga's operating system to add new screenmodes and to deliver graphics onto the new card. For a long time the standard was Phase 5's CyberGraphX RTG software, the most strongly developed RTG software with drivers for cards provided with lesser RTG software. It's been as popular that a 15 more or less an RTG standard for the Amiga which makes it such a surprise that Vitegate has decided to go it alone.

Picasso 96

The software provided is known as Picasso 96. Out of necessity for the situation with Amiga software, it sports a high degree of compatibility with CyberGraphX software, so much so that the bulk of the CyberGraphX software has been able to functioned perfectly. ImageFX, Image Studio, Image-MD, Illuvius, CyberPaint, ImagePaint etc. it isn't just compati-

ble, it's actually better in many respects. It accounts too that it seems virtually bug-free given the hideous state of Phase 5's CyberGraphX 3D update which we looked at the CyberVision 3D a couple of months back.

What's more, any major complaints about CyberGraphX have been addressed in Picasso 96. The screenmode editor, called Picasso 96 Mode is a neat study in what such a tool should look like, unlike the amateur effort in CyberGraphX. There's also the matter of screen-switching. Unlike the Amiga's native stop-and-go, snipping screens doesn't just require changing a pointer to somewhere else in memory. You have to show the entire display in and out of the card. Perhaps it's also due to spatter hardware but screen-changes happen in a fraction of a second and not two whole seconds like any GVP Spectrum. It's worth noting that CyberGraphX 3 was also much quicker in the CyberVision 3D but nowhere near the Picasso 96's snip rate.

There were some minor problems though. Some old software like Iconiser crashed with no explanation, although it was fine on CyberGraphX. Express ED, the

famous text editor, didn't even block-market test, rendering the package quite frustrating to use. PowerDraw refused to work at all. Otherwise, everything was perfect but I've sure other glitches will appear.

I was dubious whether a new version could appear onto the mar-



▲ Picasso 96 Mode: an improvement over CyberGraphX 3D is the least. How else can it beg all this stuff?

Benchmarks

800 x 600 pixel 256 colour screen.

Test	CV3D	Picasso IV	Winner
Put Pixels	2664173	1196298	2.20 CV3D
Draw Lines	142294	27268	5.17 CV3D
Draw Horizontal	260494	267934	1.03 PIV
Draw Circles	86498	100249	1.18 PIV
Draw Ellipse	78682	79545	Draw
Draw Boxes	3212	10481	1.62 PIV
Scroll X	1389	2415	1.80 PIV
Scroll Y	1288	2528	1.79 PIV
Print Texts	88270	27264	1.77 CV3D
CGA Output	799	1971	1.68 PIV
Open Windows	124	90	1.11 PIV
Size Windows	630	548	0.86 PIV
Move Windows	87	103	1.40 PIV
Swap Screens	48	582	12.15 PIV
Amiga!	29400	520	56.7 CV3D

The results are extremely interesting. In most tests the Picasso IV and Picasso 96 software combination were an average of 25% faster. However the CyberVision 3D/CyberGraphX combination shows impressive accelerated Draw Lines and Put Pixels performance with astounding Amiga! results. The Picasso IV was far faster for screenshots. In general use, the Picasso IV subjectively felt a bit faster but in reality, fast is fast.

Let's return CyberGraphX but Picasso 96 appears to have done just that. The CyberGraphX authors totally re-wrote the software, introducing a lot more bugs. Seemingly the only reason for this was to implement the OpenGL standard to show off the 3D capabilities of the CyberVision 3D. There's also removal of a low-level teletext in Picasso 96, which will allow ultra-high speed access to the hardware for emulator software such as the forthcoming Fusion Macintosh emulator.

Picasso IV card

I'm pretty impressed with the Picasso IV card, the combination of very nice and fast hardware and excellent software make it a fantastic addition for any Zorro2 or Amiga. There really is nothing like a graphics board to drive lively high resolution, high colour screens for the wealth of top notch Amiga graphics applications. The Picasso IV's faultless flicker-free ensures that naughty applications and games won't be left in the dark on your brand-new 17" VGA monitor.

The Picasso IV sports some other neat features like the 5-video ports and audio In/Out 3.0mm jacks. The great thing about this is that such can be

input to the Picasso to be mixed with the Amiga's standard audio. There's a little utility provided to switch the inputs as needs be. Passing the output of a third party 16-bit sound card into the Picasso IV also would be a great idea.

The Picasso IV's electronically PCI-compatible expansion connectors promise MPEG decoders, video-in-a-window and video PAL encoder modules for the future. It's that simple: if you're get a Zorro2 Amiga and you're serious about your computing, get a Picasso IV. ■

Mark Rutherford

PICASSO IV

System requirements:
Any Amiga with Zorro II or III slot.

Value of card	99%
Build quality hardware and software	99%
Performance	99%
Reliability (does performance hold a steady pace in time)	99%
Value for money	99%
It's reasonable, but you get value	99%

Verdict:
Enter clearly the best of graphics cards.

94%

A new look at CyberVision 3D

Time for a second look at the new improved CyberVision 3D graphics card from Phase 5.

Con review of Phase 5's CyberVision 3D graphics card created quite a stir. Opinions ranged from these totally unfunny with the card to those who thought it was the best thing since sliced bread. The fact is, although at the time every effort was made to sort out some of the problems, the product, simply wasn't to our satisfaction.

However, since then the CyberVision V3 software has improved so much. Many of the previous incompatibilities have gone away and performance in some areas has improved also. It's now back up to the same high standard as the previous CyberVision version 2. Unfortunately the 800 x 600 16-bit bug still plagued the CV3D. We have yet to have it confirmed but it seems this is a hardware bug of the V302 chipset itself.

No 16-bit

Only the 3D V302 demo runs in 16-bit and obviously they work on a lot of configurations out there. They don't work for us. We even tried installing the screen mode scan rate significantly in all areas

but still the CV3D output nothing but a black screen. This is a singularly annoying feature since we find 800 x 600 16-bit is the most useful screen mode for a 17" monitor.

We reinstalled the software from scratch on another machine, installed the latest updates, but still the problem would not go away. As such we advise that you request the right to return the CV3D if this screenmode does not work for you.

Previously the screenmode editor software, which has been improved slightly since we reviewed the package, placed restrictions on the scan rates and pixel clock that could be set on the CV3D. These were taken directly from the 3D V302 specifications. Now Phase 5 have given CyberVision the capability to enter an "advanced" mode so that these limitations aren't there. It rapidly becomes apparent that the V302 can do more than the specs, very useful for defining an 800 x 600 24-bit screen in a good V302



▲ Ben's Return Christmas looking at you over Boris, CyberVision V302 plays

whichever rate, unlike the flickery 50Hz default.

Price reduction

Also big news on the CV3D front is the massive reduction in price. In the UK, Phase 5 will have set up another UK distributor by the time you read this. Wolf District of Phase 5 assured us that the price of the CV3D should be around £175. Even with the separate scan/deduper at £75, the combo will sell for some £55 cheaper than the previous V3.

The support software with the CV3D has improved also with the promised OpenGL 3D library system having been completed and included with the new software. It remains to be seen if third party developers take up the ball with OpenGL on the Amiga. If so, this could be the beginning of an Amiga 3D standard so that the Amiga can benefit from 3D hardware acceleration for games and applications alike. Only Phase 5 seem to have given this aspect any thought



▲ Here here is the real one, notice when the old one was double fix.



▲ This 800 line card for CyberVision V302 performs.



▲ CyberVision V302, the other look screen mode editor that CyberVision uses as.

whatsoever, let alone completely develop a 3D library. Ports of OpenGL applications on other platforms are a distinct possibility. Phase 5's new another software V302 plays provided also - it seemed identical to the last but minus the bugs to us. Good news with fixed software, price support material and a price reduction on the CyberVision 3D, the Phase 5 doesn't have the edge that it would if compared to the initial CV3D release. The CyberVision 3D is an excellent fast graphics card with high quality software support. This makes it excellent value for money and I can now recommend it most highly. ■

Matt Bartholomew

Netconnect

■ Price: £59.95 ■ Developer: Vegerware ■ Supplier: Active Software ☎ 01325 352260

Could Netconnect be the complete Internet software solution you've been waiting for?

It's about time someone put together a commercial Internet package consisting of all the best registered software. The Netconnect package has been a long time coming, but it bears with the wait!

Netconnect may as well read Vegerconnect since virtually all of the software is from the Vegerware camp. Vegerware software is overwhelmingly programmed by the German Oliver Ragner. I've long been a fan of Oliver's software, so I was quite excited at the proposition of all of the best works presented in registered form. His Internet software has been extremely popular among Amiga net heads.

MUI dependant

First, there's bound to be those with reservations, what with all of the Moverware software requiring Magic User Interface. It's people who'll be skeptical, so when running a suite of MUI software, the GUI

library system actually gets more efficient since all of the packages use the same GUI code in memory. We won't go into the pros and cons of MUI here, but suffice to say Netconnect comes bundled with an unregistered version of MUI 5.8. The applications are all either the best or among the best that are available.

First thing you notice is that the CD is Magic Workbenched which mildly annoys me as I don't use the MUI icon palette so the icons look hideous. Activating the installer requests a hard drive location with MuI of free space. Wow, by fitting a PC Internet suite in MUI! As the installer proceeds to copy the package to hard drive, it subtly requested to check each country for which details of the Internet Service Providers (ISP) will be copied. Never mind, when finished the all new AmiTCP 4.5 GUI config program appeared.

You heard right, AmiTCP 4.5 is bundled and it actually has a GUI config now, so more editing of

endless text files! I was instantly extremely impressed as the package knew about most of the UK's ISPs and even their various Point Of Presence (POP) telephone numbers! In a file I'd filled out the essential details for one of our accounts (username, password, full name etc), set up the modem to use my serial card and Bob's your uncle!

AmiTCP 4.5

After a quick reboot and an Internet Doc bar with MUI style buttons appears. It's even handy-usable as you can add/delete and edit the buttons! It's also a MUI Doc bar so it can be unaposted anywhere on the screen. Press the 'plug and socket' type button to start AmiTCP 4.5 and the dial-up procedure gets underway in a terminal window. Sadly it failed to connect for me and no error was reported other than AmiTCP exiting quietly. Charming. Turns out I needed to turn off 'header compression' but there was no indication why.

The rest of the Doc buttons launch the major applications provided which are: Vegerware's WWW browser, AmiTCP for IRC real-time chatting, AmiTCP for FTP downloading of files, AmiNet for telnetting into remote servers and a few more reliable utilities. MoreDoc is provided to handle the E-mail and News situation. It's shaping up to be a fantastic package and it was this area of Netconnect that caused the delay. It definitely needs more work so it's just as well that Active Software provide software updates.

In fact support for the package is quite impressive. It has its own web site and E-mail mailing list



▲ The new GUI preferences for AmiTCP 4.5 are impressive even in the former configuration method.

for support and announcements etc. It's a great collection of some of the best software as it is but with updates promised in the slightly weaker areas, things look extremely good for Netconnect. My only reservation is that while AmiTCP 4.5 is a fantastic improvement, it's still not as user friendly as Miami. For one thing I would have liked to have seen better error reporting in particular.

Professional

Unfortunately the provided software will not run under Miami, only working with the AmiTCP 4.5 provided. Active Software tell me this will change in the future. All in all it's a professionally put together package with buckets of support on offer, which all goes towards making this the best beginners all-in-one Internet suite around at the moment. ■

Mark Bettinson



▲ Another GUI configuration for this time for the Internet Doc bar sets below.



▲ Appearing at boot up, this Internet Doc bar fires up AmiTCP and activates the major clients. Handy.

NETCONNECT

VERDICT
 Netconnect is a fantastic collection of some of the best software as it is but with updates promised in the slightly weaker areas, things look extremely good for Netconnect.

PROS
 - Includes all the major Internet software
 - AmiTCP 4.5 is a fantastic improvement
 - Support on offer

CONS
 - Not as user friendly as Miami
 - Error reporting in particular

SCORE
 89

Catweasel

■ Price: £58.95 ■ Supplier: Bittersoft ☎ 01908 261466

Catweasel offers a solution to the problem of the Amiga's outdated double density drives.

One of the weak points of the Amiga is its floppy drives. The Amiga has stuck with its old fashioned DD drives, storing a mere 880K per disk, when everyone else in the world has moved on to HD (high density, not hard drive!) disks. Normally this isn't a huge problem, after all you can always just use two disks, but it is getting more and more difficult to buy DD disks these days. Although some companies have developed HD drives for the Amiga, they cost four times as much as similar PC drives and are very slow.

Catweasel, the odd L-shaped board with the cat's tail on the

chip, offers a unique solution to this problem. The Catweasel slots rather neatly over the IDE connector on the motherboard. There is a through-connector on the Catweasel for hard drives to be connected undisturbed, but it is necessary to remove the top of the Amiga's RF shield to fit it, a cable stretches out the side of the AT386 case, or if you have a tower, off the bottom of the motherboard, and can be connected to a couple of 3.5 or 5.25" type drives. Software installation is simple - just click on the install icon, tell it what you've plugged in and off it goes.

The beauty of Catweasel is that it is a very flexible floppy drive.

By choosing one of the provided insulators, you can connect drives configured as Amiga HD or DD, PC HD or DD, and even old Commodore 1541 drives as used with the Commodore 84. *StripedDriver* 2.3 even supports the Multitask device. There is even a utility to allow you to boot from a Catweasel drive.

The flexibility Catweasel gives you is unparalleled. A Catweasel plus PC HD drive costs only a little more than an Amiga HD

drive, and the Catweasel set-up is a lot faster. A handy little work-around. ■

Andrew Karm



Eyeteck Buffered IDE Splitter

■ Price: £38.95 ■ Supplier: Eyeteck ☎ 01642 713185

This new interface from Eyeteck takes four IDE devices and claims to save your Amiga from certain doom.

The IDE interface inside Amiga 680s and 1280s was designed with a single 2.5" hard drive in mind. Five years on this looks like a poor provision, but we are stuck with it. A simple snap-up cable will allow the 44 pin connector on the Amiga motherboard to be used as if it were a standard 80 pin connector. This neat little circuit board from Eyeteck promises a rather more polished solution to the problem.

The Eyeteck board slots neatly inside the Amiga's case and is connected to the motherboard via a slot 44 pin connector.

Installation is very easy, with a slider on the board making it perfectly clear which way around cables fit. On the other end of the board there are two IDE connectors.

Two separate IDE chains can be connected to these, each supporting one device configured as master, one as slave. This requires software which supports two channels: *AMAP* v1.0 and *ASIMCDFS* both do the job, but neither are included with the board.

The big selling point for this board is that it is buffered. This means that the devices plugged into it do not connect directly with the CPU. Eyeteck makes a big thing about this, warning that without such a buffer your CPU is in great danger. A number of companies who sell unbuffered connectors have told us that Eyeteck's warnings have worried a lot of their customers, they say unnecessarily. In our tests the unbuffered connector is perfectly



capable of supporting a full meter cable with two devices on it without any reliability problems; one office A1200 system has run this way for years. On a longer cable, there were problems with read reliability, and firing the Eyeteck device seemed to remove this. We have yet to actually hear of anyone damaging their CPU the way

Eyeteck describes, but the buffered device gives an assurance of reliability and allows longer cables to be used in tower set-ups. For your money and take your choice. ■

Andrew Karm

MakeCD 2.2

■ Price: £30-£120 ■ Developer: Angela Schmidt and Patrick Ohley ■ Supplier: CUICD11



Now that CD cutters are finally a realistic option, Amiga CD burning software is starting to hot up.

There's been little in the shareware domain to master and test recordable gold CD-R disks on the Amiga. There's Burn II, which we'll look at next month and this newcomer from Germany called MakeCD. There's also the expensive and beautiful MasterCD from Germany but if you're looking to fire a cheap CD cutter to make some gold disks on an amateur basis, MakeCD is the right price.

Next interface

Unlike MasterCD, MakeCD doesn't emulate its own screen. It uses the Thrive GUI library which is slightly clunky but a great improvement over MasterCD. At first the interface looks quite complex, but almost everything is laid out in a logical form. There's an on-screen help bubble which usefully appears over each gadget as the mouse hovers over it. Luckily this can be turned off.

The main page shows a list of tracks. As soon as one is added,

the Source and Target sections become active. It's here that a little nest of configuration options hide. The Track type can be data, digital audio or the lesser used 'XR' style tracks, used for PhotoCDs and such like. The Source can either be read from an image file on a hard drive or, in the case of a data track, taken directly from the Amiga filing system. That's right, this is the only CD mastering package that doesn't need to build a temporary file first. It can master on the fly to a CD writer. This is a great saver of time and disk space if your machine is fast enough to handle it, as it removes the need for a spare 700Mb 'scratch pad'.

MakeCD can even copy a track off another (supported) SCSI CD-ROM directly to the target. The target can also be set as either a temporary file, a specifying style device such as a tape backup or the obvious: direct to a CD writer. This is a highly flexible approach.

Impressive features

MakeCD's feature list is impressive when it comes to building ISO images also. ISO 9660 is the standard CD-ROM filing system.

However, this standard only handles upper case filenames and has some other silly restrictions, unless



▲ Here you are building an ISO image onto a hard drive.

for Amigas. Luckily there's RootHedge extensions which record the extra information. MakeCD has a mass of options in this regard and can be confusing in this area. The documentation isn't 100% on these aspects and needs to be improved.

It's possible to generate virtually any kind of ISO image. The danger is that you may fall into traps in the Commodore filing system like we did with CUICD11. CDs mastered with MakeCD can record Amiga specific details such as the 'script' and 'puest' file flags. You will need a modern CD filing system such as the PD-AmiCDFS to read them though.

MakeCD uses a superb modular approach to provide the functions for building ISO images and the drivers for various CD writers on the market. A driver would simply be dropped in and suddenly the package will support that writer. MakeCD 2.2 supports many of the big boys of the CD writer scene and the authors have a pro-active policy of generating drivers for more. You might like to check the compatibility guide in the MakeCD directory on this month's cover CD.

A key factor in writing CDs is performance of your Amiga. The CPU power and speed of the SCSI system are very important, but things like redefining how different interfaces can help matters. Unlike MasterCD, the MakeCD authors don't guarantee a limited set of systems. Instead

they've shown which systems are reported to have worked and which ones have not. Again see the compatibility guide. Generally it's highly efficient but not to the level of MasterCD.

Good value

All up, MakeCD 2.2 is an extensive professional package with a very sensible approach to pricing. For the ability to cut CDs which aren't going to be published, this is a highly reasonable 750Mb or around £30 - a total steal for a package of this quality. If you want to enter the professional arena, the cost is 3000Mb or around £120, still excellent value for money. Go and check it out for yourself now. It's on the CD! ■

Mat Bestman



▲ MakeCD's comprehensive general preferences.



▲ To save MakeCD windows where tracks are default.

MAKCD 2.2

System requirements:
68010+ in 68000 mode
256 KB RAM

Cost of use	85%
Support and documentation ready to be requested, but generally not ready to be requested	85%
Performance	85%
Compatibility	85%
Value for money	85%

92%
Time to get the CD cut with MakeCD rocks!

PD Scene



The thriving PD scene has thrown up some games this month. Andrew Korn is your guide to another batch of goodies.

- ★★★★★ **Totally blinding Good**
- ★★★★☆ **Average**
- ★★★☆☆ **Substandard**
- ★★☆☆☆ **Oh dear**

Braindead

Doom clone

■ **Available from:** Online PD; The Cloisters, Hobart Lane, Formby, Liverpool L21 3PX.

■ **Tel:** 01704 634335

■ **Price:** 75p per disk and 75p RRP per screen

One of the more technically impressive Doom clones to turn up on the Amiga, this Polish effort is notable particularly for the digitised character graphics and because it's the only Doom clone, so far as I know, which allows the player to put the foot in.

The basic gameplay is very Doom-like. You select a variety of weapons that you find around the arena, but if that chainsaw just isn't cutting the mustard (or rather the bad guys), then hit the Alt key and your steel toe-clipped boot stomp out with chilling force. As all the

enemies appear to be leather-jacketed skin-head thugs, this all appears pretty appropriate.

I don't know if there is a plot behind this or not, for all I know you are meant to be a footie toadigan whose team is playing away in some kind of weird high-tech residential analogue world - but plot really isn't important in this sort of game, what you need to know is how it plays.

In game terms there isn't much to do in Braindead yet, just wander around looking at some pretty scenes, backgrounds ticking and punching people or cutting them up with the amazing (or blood-chilling), but technically this is a beast. It runs on an unregulated AT286, but gives it a bit of CPU power and it runs along very nicely. The Polish programming



team behind Braindead intend to produce a commercial release soon. We will keep you informed. ★★★★★

Charlie Cat Quickie v3

Cartoon

■ **Available from:** Roberts Smith PD, 190 Palfrey Way, Hampstead Garden Suburb, London NW11 5JE.

■ **Tel:** 081 466 1606

■ **Price:** £1.50 for 2 disks, plus 50p RRP

The latest short from Anthony Whitaker comes to us after a fairly long gap. Being a 'quickie', this two disk animation will run in just 2.5MB, which given that it is long enough to contain a plot, is not a lot. Anthony Whitaker uses MovieMaker, the software popularised by Amiga legend Eric Schwartz, to produce his professional looking animations.

Charlie Cat cartoons, like those of Warner, tap very much in the vein of the Warner brothers classics. There is a fairly standard cat and dog chase scenario in this one, the twist here being the introduction of a single feline. No more plot details to spoil it for you, if you like Amiga cartoons, get it. ★★★★★

The Sun

Weird puzzle game

■ **Available from:** JMS Software, Ma Shephard Rd, Shephard, Leics. LE12 8PF

■ **Price:** £2

According to Robert Beavil and Graham Hancock, the Sphinx at Giza hides a secret wisdom which can be unlocked by those who understand the Sun's professional code. The ever incomprehensible cover letter suggests that the authors have cracked this secret and this game was the result. It will come as something of a surprise to Egyptologists to learn that the god Thoth programmed in Amos.

Every now and then a game comes along which just does it uniquely. The first time you played Tetris, Lemmings or Populous, you

know you were playing something new. I'll be pretty surprised if The Sun becomes the new Tetris, but the comparison is a good one. The Sun owes little to any other game I've played - a touch of E-Motion, maybe, and a hint of "Sense" games - and gives you that sense that you're getting better each time you play, making it difficult to stop.

You play the part of a sun, created by eight icons, or glyphs, which slowly close in on you. As they close in, the sun is drawn towards the bottom, the game ending when it sets. By shooting the glyphs, you can split the images, the challenge being to match the glyphs to icons and take the sun a little. Shooting the highlighted glyphs leads to bonus points. It's a bit like Tempest in 2D. Less complex than it sounds. The game can also be played as a one or two player challenge, the winner being the first to cause the sun above a bar, the 'vault of the heavens'.

From the wobbly, scratchy, black and

white title page to the music which resembles a trance remix of Madness' 'Night Boat to Cairo' to the psychobically bright game graphics and sound effects, The Sun follows a clear design logic and a music sensibility more than reminiscent of Jeff Minter. Indeed.

★★★★★



Game of the Month

Astrokid

Multi-genre game

■ **Available From:** Arrow PD, PO Box 2, Dover, Kent CT15 4AR

■ **Tel:** 01394 802 344

■ **Price:** £4.99 plus 75p P&P

This *Amiga*ware megagame sends you on a six level quest, each level being a different game. You start flying through space shooting asteroids, mines and space ships from a fixed first person perspective, an idea which started with *Star Raider* and lives in today even on the latest super console games. Following this you enter your damaged ship to a difficult landing, fly through tunnels, solve puzzles and shoot big scary monsters.

Look at the screenshots and you will see that this is a game which causes graphical quality. It is a pity that the gameplay just doesn't match up. The individual games are all based on stock games the like of which we've all seen before, and the multiplicity of them means that they aren't particularly well implemented examples of their type.

This is the kind of game that keeps you interested because of the lively graphics and variety of gameplay, but once you've seen all the levels you won't play it again. As *Astrokid* it would be great, but as *Amiga*ware the lack of gameplay bites. ★★☆☆

Ampu

Worms clone

■ **Available From:** Online PD, 1 The Clusters, Russell Lane, Formby, Liverpool L27 3PS.

■ **Tel:** 01704 804335

■ **Price:** 75p per disk and 75p P&P per order

There have been a few *Worms* clones knocking around since Team 17 released their masterpiece, but on the whole they offer nothing new. *Ampu* breaks the mould by actually doing some things the original doesn't.

Explicitly the game is pretty nice. The gentle-like antagonists aren't up to Team 17's standards, but they are animated properly, which is more than can be said for many competitors. The scenery, while lacking the humour of *Worms* DC, contains some genuinely fun new weapons, such as the 'beaver' which injures the eye. I mean play in a block of ice, and 'jetpack' which allows you to rocket dangerously around the screen.

Many clones should do something new and this is the first of the *Worms* clones I've played which actually does offer some attractions that can't be found in the original. Not a bad effort in all. ★★★★★



Torque

Uridium clone

■ **Available From:** Online PD, 1 The Clusters, Russell Lane, Formby, Liverpool L27 3PS.

■ **Tel:** 01704 804335

■ **Price:** 75p per disk and 75p P&P per order

Torque of the dead (sorry) and another clone comes along. Just because a bunch of adolescent anarchists they have cloned *Dolly* the sheep, someone else wants to get in on the act. Andy Raybourn's last scrolling all action classic Commodore 64 blaster is just the kind of thing nostalgia freaks want to see again, and author Shaun has come up with this to keep their flags.

There isn't the smoothness of gameplay of the original and the graphics don't really compare to the flashy raytraced objects becoming so popular today, but if you're a fan of the original then snap it up. ★★☆☆

Destructive Poker

Card game

■ **Available From:** Classic Amiga PD, 11 Garsgate, Radcliffe, Manchester M26 2SH.

■ **Tel:** 0161 7231638.

■ **Price:** £1 per disk and 75p P&P per order.

The irreverently named *Destructive Poker* is a

solo card game based on poker and points gambling rather than the standard *Ante/No Ante* formula. The game is simple enough – you are dealt five cards, some of which you can change, the aim being to get a hand worth as many points as possible. By raising the ante for each hand, you can buy yourself extra card changes, and just to make things more fun, you can have a variable number of players in the game too. A double or nothing option is given to you after every win.

Destructive poker is simple, well presented, with the now obligatory interchangeable card sets. It won't set the world alight, but if that's what you're after you'd better pivot so on Fusion condenser reactors instead. ★★☆☆



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★★★★★ **Totally blinding**
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SoundFX Sensation

■ **Available From:** Epic, 43 Abers Way, Swindon, Wiltshire SN2 2NF

■ **Tel:** 0580 131486

■ **Price:** £14.99

SoundFX Sensation is a massive collection of samples. There are around 500Mb of them on this disc, mostly standard Amiga 650k files, but with a nice smattering of WAVs as well. The title of the CD really says it all - unless many sample collections which try to cover as much ground as possible, this one has its sights firmly fixed on providing sound effects for games writers, animators, film makers, or musicians with a warped sense of humour. The samples are arranged by subject, from alarms to weapons, and contain a sound to suit pretty much any situation you are likely to come across.

Epic have provided a front end for this disc, a player which allows you to play the samples by hitting keys on your keyboard, great for

sorting through this massive collection. The front end looks very nice but is marred by the barely readable dark green on black file requests which Epic seem unfortunately taken in, and it has a tendency to quit for no apparent reason.

Not content to hand you mere samples that you could ever possibly use, Epic also supply a directory containing sound and music loops. As this is a multi-format CD a lot are for PCs, but the 50Mb or so of Amiga utilities contains pretty much everything you need to get the best out of these samples.

Make no mistake, this is a SoundFX CD, and if you buy it expecting it to be full of great instrument loops for making music then look elsewhere or you'll be disappointed. If you want samples of explosions, barking dogs, cartoon boings and endless vocal soundscapes, you will be very happy. ★★★★★

Epic Encyclopaedia '96

■ **Available From:** Epic, 43 Abers Way, Swindon, Wiltshire SN2 2NF

■ **Tel:** 0580 131486

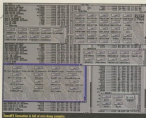
■ **Price:** £19.99

If you read the review of the '97 version in our April issue, you will know that we considered this older version to be notably inferior. When we originally reviewed this 9 months ago, we

gave it 77%, which was a respectable score if a long way from the 91% we gave Epic '97. Updated, it deserves a reconsideration award; in this form it remains useful and informative, but hasn't the entertainment value of the newer version.

The Encyclopaedia installs a front end and directory structure to your hard drive. This allows new plug-in entries to the encyclopaedia to be distributed via floppy or the Internet, a feature you wouldn't normally expect on a CD-ROM. Epic have provided installers for the full version and for a lite version for users of unexpanded machines.

The front end is nicely polished, with a scrolling selector for you to pick your subject, and windows for the text output, pictures and movie clips. Clicking on the pictures displays them full screen, but alas the movie clips don't have this feature, this was another addition to



the '97 version. A well implemented helix system allows you to sort through the directories for selecting the subjects that particularly interest you for later perusal and easy location.

One of the first things that annoy you on using this encyclopedia is how frequently you are greeted with the message "Sorry, there is no picture for this subject". It is a little unfair to blame Epic too loudly for this, after all the disc is packed. Rival products make their own more "multimedia" by having less entries. The '97 version has an option to display only entries which have some multimedia support, an excellent feature which gives you the best of both worlds, with this one you'll have to grin and bear it.

There is a lot to explore here, that Epic have managed to compile entries about so many different subjects is enormously impressive, although we would have liked to have seen in-depth articles on the more important subjects. The frequency of text-only entries is a bit down, but it seems odd that to utilise an Encyclopedia for having too much text, so I'll shut up now. I would choose to play the cards for the updated version, but the fact is that this is one of the most popular image CD-ROMs ever says it all. ★★★★★

Mick Davis' Cartoon clip art

■ **Available from:** Epic, 43 Akers Way, Swindon, Wilts, SN2 2NF

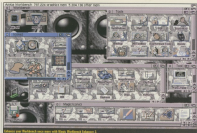
■ **Tel:** 0505 131466

■ **Price:** £19.98

This rather strange disc is slightly misleadingly titled. Although Mick Davis' cartoon clip art gives its name to this disc, it makes up rather less than the bulk of it, despite each image being reproduced in HT, DMF, TIF, PCX and two sizes of GIF. The actual quantity of Mick Davis' illustrations amount to a "mere" 30000 in all. There is an additional 20000 of uncredited cartoon clip art, mostly covering nature and technology. They are of a uniformly high quality, although a little small at 320 by 400 and 16 colours.

Let anyone should think I am criticising Mick Davis for being lazy, I should point out that as his cartoon artwork is so successful the work,

30000 is actually rather a lot - he has done well over 400 images for this collection. The images are large so as to reproduce as well as possible when printed out at high resolutions, up to 2000 x 600 pixels (more in at least one version). Stylistically Mick Davis comes across as being traditional, even a little old-fashioned. There are more the sort of illustrations for greetings cards and club



newsletters than for the hardcore techno fanbase. The craftsmanship is good, the style and quality constant throughout, so check the images reproduced here.

Two things strike me about this disc; an unsurprising omission and an excellent inclusion. To get the bad news out of the way first, these are all in bitmap form only - there is no structured art format such as EPS. EPS versions of all 400 or so pics would take two CDs on their own, so this is hardly surprising. Image Studio, which we gave you last month, will convert to EPS for you. The excellent inclusion is the CD case info, a 28 page booklet containing thumbnail images of the images, which makes finding one appropriate for your needs a breeze. All image discs should have one! ★★★★★

Magic Workbench Enhancer volume 2

■ **Available from:** Epic, 43 Akers Way, Swindon, Wilts, SN2 2NF

■ **Tel:** 0505 131466

■ **Price:** £17.99

In case you haven't been paying attention for the last few years, Magic Workbench by Martin Huxton is a clever little system for polishing up the appearance of your Workbench which has become the de facto standard for post-Commodore 4 colour gey Workbenches. Pretty much every program written for the Amiga in the last couple of years has come with a Magic Workbench icon, making modern Workbenches look vastly better.

MWB was a huge shareware hit, but people want more. CD-ROM has made it possible for vast collections of backgrounds and icons to be distributed. Unfortunately there just aren't that

many to go around, so if you've got a few compilation CDs, the chances are that you already have many of these images. Having them all collected in one place is, of course useful, but the real snail of this disc is that Epic have packed it with all sorts of little extras. Following the Workbench enhancement line, this disc has a lot to offer in the way of Workbench hacks, small utilities and the like. In case you get bored they have included a huge selection of Workbench games, and there is an excellent selection of networking tools too.

This is the kind of disc that you use selectively - after all you are unlikely to want more than one backdrop at a time, and there are far more fonts, hacks and utilities than you would ever use - but to have such a range puts your ideal customisation in easy reach. The best compilation of this type I've seen. ★★★★★



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Epic Marketing, one of the biggest players in the Amiga CD-ROM scene, have kindly offered us a big stack of CDs to give away. If you take out a subscription to our CD-ROM edition, you not only get CD-ROMs delivered to your door, a new CUEd every month with more on it than you get in 25 years of collecting the floppy disk version, but you can claim a free copy of either Mick Davis' clip art, Epic Encyclopedia or Sound FX sensation. Current subscribers can re-subscribe from the page to qualify. Turn to page 104 now for details, but hurry - stocks are limited.

Art Gallery

Pictures from talented readers get a showing once again, along with some chin stroking from our man Andrew Korn.

Deep Dicks by C.A. Shaw



Bandoned in Imagina. The diffused light adds a lot of impact, but the air bubbles look artificial. Imagina 4's blots feature could overcome this.

Red Center by Andy Wallace



Drawn with Photogenic and PPaint. Use of a redstone as the base color is a tradition in chalc drawing, but Andy shows that the technique can work well in computer art.

Sheduleek by Paul Kozar



A topical image at a time when the Galileo probe is badly going, this picture wisely trades scientific accuracy for artistic excellence. A dynamic composition, beautifully executed. Paul sent no details on how it was done, just enjoy.

Up by T. Rothrock



This picture was produced with Cinema 4D 2 and is proof that 3D rendering software has more potential than merely creating space battles. Mark's abstract is reminiscent of the organic images of computer "sculptor" Latham.

Rise by Mark Fowler



Rendered in Imagine with post-processing in After Effects and Image FX, the backdrop lends the otherwise precise subject an almost surrealist sense of grandeur.

Pops by Lee Martin



Lee Martin gets up to his penguin antics with Cinema 4D 3. He gave 50% to Cinema 4D 3 last month, and here's an example of why.



With the best tutorials this side of somewhere far way away, plus views and comments from all corners of the Amiga scene, this is the place to be.

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Bones, that powerful but mystical animation feature of Imagine 4.0 is explained in this month's essential tutorial.

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When does word processing become desktop publishing, and which package should you be using? Larry Wikstrom has the answers.

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Ray Horgan explains how this month's CD audio track 3 was put together, and has an update on comments Dex & Jonessy.

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Now that Amiga web browsers have frames support, Mat Karlsson checks back to the HTML tutorial to show how they are done.

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Forix supplies: they are subject of more technical nitches than anything else. John Kennedy address this sticky subject.

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You ask, we scratch our heads for a while, shoot around the office at each other, and eventually, we answer.

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Programming languages eh? We just can't get enough of them can we? Here's another one: Perl. John Kennedy has the low down.



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We've got a brand new offer for you this month. As always, a subscription saves you money as well as shoe leather (no more walking down the magazine's once a month).

105 Points of View

Disappointed that Gateway haven't announced plans for world domination based around the Amiga Web, that's to be expected, returns Tony Morgan.

106 Back Issues

This is the page to turn to if you missed out on any issue of CD Amiga Magazine. All the main details of previous issues including cover disk and CD content are here.

Amiga Workshop

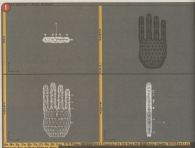
Imagine 4.0

PART 6 Dem bones, dem bones, dem rendered bones -

following on from last month's look at States, we're now in a position to experiment with one of Imagine's most powerful (and confusing) features...

Why do we need bones? So we don't collapse to the floor of course. We all consist of bones, around which is wrapped our skin. This is how Bones work in Imagine - a central skeleton is created, and a single, continuous surface is created around it.

Unlike joining objects by placing them side-by-side, a properly *boned* object will have a single surface skin covering it - when the objects underneath move, so will the skin. It will stretch and contract as needed, taking care of any textures mapped onto it. This is the key to professional looking animation, which is more fluid and organic than would otherwise be possible. Using Bones is a tedious, time-consuming and tricky process, but the final results are worth it. No other



animation package gets close to offering this kind of groove.

Bones are applied to existing objects, to provide points around which they can be animated. You therefore create the single surface object, and then place the bones inside it. How you go about creating the object is up to you - there are many ways offered by Imagine, such as the Blob objects for organic

looking shapes. Bones are positioned where you want the object to 'buckle', for example, at a finger joint.

You then need to tell Imagine which parts of the object's surface will move, and which won't. For example, when you bend your finger, the skin on your finger tip will slide perfectly still relative to the end of your finger. However, the skin at the knuckle will stretch. Perhaps now you can grasp how much work there is involved in creating a realistic object with bones.

Creating Bone Objects

In order to save time, we'll use an existing object to apply our Bones to. You should find this object with your original installation of Imagine, but it's included again on the cover CD in case you have lost it. It's called 'hand.bon' and when you load it into the detail editor, you'll see something like this:

(See Fig. 2)

Notice how all the bones (the dots) are grouped together. If you click on the very bottom, all the others will become selected. Notice how all the axes are oriented so that their Z directions all point to the end of their associated fingers.

(See Fig. 3)





There is another axis, the object's *inward* axis. When you click on it, the object itself will be selected. (See Fig. 3)

You will need to be able to select both the bones and the object separately, so don't get confused at this point or you won't get any further. Remember the object has two parts: the bones and the surface. The surface also has its own axis, like any other Imagine object.

Using Bones

Once a named object has been properly created, it's dead easy to use. Before we get bogged down in the details, here's how to use the hand object. Load it into the Detail Editor if you haven't already. You know there are two parts to this object: the linked bones, and the object itself. It's important to remember the distinction.

At the moment, the hand is in its default state, and all fingers are open. We're now going to make one finger curl up.

Step 1

Make sure you are in 'Pick Groups' from the Mode menu. Select the first bone in the first finger. You should see the remaining bones in the finger become selected too. (See Fig. 4)

Step 2

Rotate the finger in the X direction about thirty



degrees. It doesn't matter which way, as the hand is symmetrical. Notice how only the bone moves – the hand object itself remains unchanged. (See Fig. 5)

Step 3

Select the next bone up the finger, and rotate it in the X direction by another thirty degrees. It too will curl, leaving the skin behind lurch. (See Fig. 6)

Step 4

Now we will update the rest of the hand. Select the hand object's axis – not a bone. This will cause the hand object to become active, like this. (See Fig. 7)

Step 5

Select 'Bones Update' from the States menu. After a short pause you will see the finger return to so that it follows the shape of the bones. Look closely and you'll see only some triangles have changed their shape, while others have remained as before. (See Fig. 8)



Step 6

Now we'll create this, too, you should create a new state for the hand object with one finger bent. Use the 'Create' option from the States menu. Make sure only the Grouping option is selected. (See Fig. 9)

Making your own Bones

Ready to start the magic spells required for the bones feature to work properly? Good for you. First of all, create the object which you want to animate. It's possible to use existing objects and apply bones: if you want to do this, it's worthwhile trying to get the object into a good, neutral pose.



Now add the bones by adding Axis objects. Make sure you add them in the right order, and keep them 2 directions pointing in the right way.

Here are some rules when defining bones. Each 2 axis must point to the final object in the chain.

Each object must point in the direction of the final object.

Each bone must be grouped, one to another.

From separate objects (such as individual fingers) must eventually be grouped.

When this is done, you are ready to create a new State. Make sure that the object is selected, by clicking on the bottom axis. All the bones will become active. If you were creating the object from scratch, you would now create a new State.

There are some rules to make sure this all works:

The first state must be called DEFAULT.

The Shape box must be activated.

It must be the first State you define.

Now you need to inform Imagine which parts of the object will deform to allow the bones to rotate. This is achieved through using

sub-groups. Two sub-groups of faces are applied to each bone; use the 'Pick Faces' mode and then 'Assign Subgroup'. Each sub-group of faces associated with a particular bone will rotate relative to the bone.

Sounds complicated? Yes, it is. Your best bet to gain an understanding what is going on is to examine the hand object in detail. Select the object, and move to Pick Faces mode. When you select 'Pick Subgroup' from the Pick/Select menu you will see a list of all the subgroups which make up the hand. When you select one, the relevant faces in the hand will become selected.

Now, if you pick a bone in the hand and select the option 'Bone Subgroup' from the States menu, you will see which subgroup is associated with each bone. The two subgroups between them define a maximum and minimum number of triangles which the bone can control; using these two settings, Imagine can determine which triangles can be deformed when the bone is moved or rotated.

Using Bones

The obvious use for Bones is when you need to animate a human or animal figure. However, Bones can be used in other situations too:

for example, by creating a bottle object, applying Bones to it and using these to animate the bottle jumping around. The bottle will move in a most unrealistic way as its surface stretches and contracts. In fact, it's an effect you see all the time in TV advertising. You know the sort of thing: a carton of milk leads a leapfrog from the fridge as an array of yoghurts, tomatoes and cold cuts bounce across the kitchen to make a break for freedom via the catflap. Or was that just a dream? I had after eating too much cheese before bed? Well you get the idea anyway.

Once you've got bones sorted, you breathe life into any inanimate object. A more mundane angle on the technique is often employed by those rendering the now rather outdated corporate logos, which twist, stretch and squish around the screen at the front of company presentations and the like.

Take it to the other extreme and you can animate faces, with one expression morphing into another, as the 'muscles' are pulled around by each other to move mouth corners, eyebrows and other features.

Starting with the simpler tasks is recommended though, as with most things.

John Kennedy

Animating Bones

You can continue to move the Bones, update the shape and create new States until you are happy that you have captured all the possible positions that you will want the hand object to assume. Remember, each State will capture the current position of all the fingers.

To animate the hand, you perform the same steps which we used last month: animating objects with multiple states, defining their colour or physical attributes. From within the Action Editor, create a single instance of the Hand object, but then select the object in different states for different ranges of frames. For example, in a fifty frame anima-

tion, you could give ten frames to each of the four fingers curling up, and the last ten to them all returning to their default positions.

When you animate this scene, Imagine will automatically work out the 'in-between' steps and move the fingers accordingly. You should try mapping a texture onto the hand to see if the skin stretches and contracts in the way you would expect.

If you want to know what the animation will look like without rendering the entire scene, or in fact, without leaving the Detail Editor, use the 'State View' option from within the Detail Editor as this will preview the changes between the States and let you watch them in motion.



▲ Use the Action Editor to assign the hand between its States.

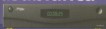


Wireframe visualization of the hand object.



▲ Still from a sequence animation of the hand in motion.

Casablanca



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Desktop Publishing

PART 3 When is a DTP package a word processor and which one is right for which job? Find out in this month's DTP masterclass.

There are two main types of packages you can use for desktop publishing: a word processor and a page layout program. The differences between the two are fairly minor these days. At one time, a word processor was only capable of putting plain text onto paper but now you can happily mix text and pictures to produce anything from a letter to a thesis.

Which begs the question, which type of program, a word processor or a DTP application, should you use for what task? The answer is not a simple one because we all like to work in different ways. What I would suggest is that everyone has both types of program so they can use whichever one they feel is better for the task undertaken.

Word processors

A word processor (such as Final Writer or Wordworth) is a column based application. Instead of having flexible text frames that sit on top of the page (like a DTP app), the columns or columns in a word processor are built in to the page and are only editable by changing the attributes for the document.

You can of course have stand alone text frames in a word processor (ables in Final Writer II) which with pictures, can be placed anywhere on the page, but the text frames cannot be listed. This method of working is built the word processor's weakness as well as its strength because it enables you to create structured documents like letters and reports very easily even though it doesn't give you the flexibility for positioning objects that you get in a DTP program.

A word processor is also lacking in areas like PostScript, where support for colour applications is non-existent. They could also do with a multitude of graphic import filters (not database support), as well as high and text formatting functions like kerning and so on.

Desktop publishers

A page layout program (commonly called a desktop publishing application) like Professional Page and PageStream, differs in



▲ Desktop publishing applications like PageStream 3 and PagePlus, have far better functions for handling text, essential for the professional publisher.

that the blank page is just that, completely blank. Before you can place lots of text on it, you need to create text frames to hold that text. This requires a certain amount of planning, but with it comes flexibility in the way you can alter the way the text is presented, text in shapes for example.

Desktop publishing programs, however, have their own shortcomings. To check the spelling in the mapping, you have to send the text to an editor and DTP applications certainly don't come with such niceties as auto correct and a thesaurus.

This is why I prepare text in applications that do have these functions, word processors, and then lay the text out on the page in a dedicated program for that job. It may sound like it would take longer to work this way, but once you know your applications inside out, these tasks are completed very quickly.

This still leaves unanswered the question of what sort of documents should be done in what type of application, so let me give you some guidelines starting off with letters. (Remember, these are purely personal thoughts that have been arrived at after years of creating documents

ranging from newsletters to colour adverts and complete magazines.

Letters

Most people will use a word processor for this. That's because it's probably the quickest way to do the job. The advantage in using a word processor is that once you have your own template set up with all your particulars, it's simply a matter of opening the template and starting to type.



▲ Word processors like Final Writer and Wordworth are column based programs where the areas for text insertion are built into the page.



▲ For example, the free *Post Writer* shows just how few word processors have been in having linked their text only image of pictures.



▲ With features like *Contents* and *Index* generation, word processors are ideal for books and the like.

Reports

This is a borderline case. Because word processors have functions like addresses and index generation, many of you will probably be happy with this type of application. Tables too will be a factor and word processors generally have better support for this as well. Reports are also generally more structured, so they are another reason for choosing a word processor.

Posters

This is a hard one because to produce the best quality graphics, you generally need to print from a dedicated picture printing application like the ones that come with *PaintShop* and *Studio II*. These don't support



▲ A program such as *PagePro* which has an *Image* pane does all the heavy stuff for you when it comes to pagination.

text, though, so any text will need to be part of the image.

I produced some posters recently which only required a few words so I used *Draw Studio* for the text, exporting it as a bitmap, and then printed the words and the graphics from *PaintShop's* *Graphic Publisher*. Because *PaintShop's* *Graphic Publisher* supports multiple images, this was easy to do.

When *Draw Studio* supports 24-bit printing, something that is coming in the next few months, you will be able to create posters in it and print with the same quality you get from these picture printing applications. You can already do this in *Art Effect* which supports both *PaintShop* and *Studio II*, so well. ImageX 2.0 which supports *Studio II*.

If your poster's images are not photographic, or maybe the poster only contains text, then you can do it in any application although I recommend a DTP package for this.

Newsletters/Magazines

These are probably the most demanding types of documents to create and because of this I recommend both types of applications for their creation. The text should be done in a word processor with all the tools you need for text creation such as spell checking and so on. The pictures should be created in an appropriate application, then the whole lot brought together in a DTP package. The reason I choose a DTP application is because it gives you more control over how the page looks in the end.

Books

Another toughie this. I do quite a lot of manuals and books, and I choose a DTP application but at the end of the day, which application you choose will depend on a number of factors, the most important of which is how the page is to be printed.

This is important since if you intend folding the pages and then stapling down the middle (the cheapest method of binding), the pages when printed will need to be paginated in the right order. Take an 8 page booklet which is two sheets of A4 folded and printed both sides. Although page 1 follows page 2, it's on a different piece of paper.

What most people do is to create the pages in the order they are to be viewed in the booklet (on a landscape A4 page) and then when they are ready to print, group all the objects on each page, and move them to the right place, so that when printed and folded, everything is in the correct order. This is easiest to do in a DTP program. It's still messy but it's a lot better than cutting and pasting after printing and then photocopying the pages. That method works but the results of photocopying often leave a lot to be desired.

If you have a PostScript printer the job can be made very easy by

Publishing programs

When it comes to publishing, there are loads of packages you can use to help you out. Below is a list of some of the most widely used applications. There are many more, from shareware applications like *Post* to printing enhancement packages such as *PaintShop*. If you want information on these not listed, call me on 01908 370 238 and I just may be able to tell you where you can get them from.

- **WebWork II** - Available from Digis International
(01908 370 238, Word Processors)
- **Post Writer II** (Software) - Available in the UK from Software Europe (01775 528 781), Word Processors
- **PageDraw 2** (Soft-Copy) - Available in the UK from UK Publishing (01908 370 238), DTP packages
- **Professional Page 4.7** (Soft-Copy) - Available in the UK from UK Publishing (01908 370 238), DTP packages
- **PageDraw 1** (Soft-Copy) - Available in the UK from UK Publishing (01908 370 238), DTP packages

using *Professional Page* and a booklet genre by Don Cox. This takes your carefully crafted document, saves all the pages to disk as EPS files and then reloads them in the order necessary so all the pages print in the right place. If you don't have a PostScript printer, it is possible to use something like *Post* (public domain program) to do the same thing with a non-PostScript device.

On the other hand, if you're happy to use cards or wire binding or even perfect binding using single pages, then whatever application you use won't matter a great deal. The advantage of a word processor is that most have index and contents generation, and after having manually created a few indexes in my time, I know this is a very useful function.

Leaflets

A word processor is well capable here but I would stick to a DTP program because of its greater flexibility. Generally, a leaflet will require the composition of lots of small elements and for that, *PageDraw* or *Pro Page* will be more suitable.

Labels

Producing labels is quite common these days thanks to *Academy* and other brands of sheet labels. Again, a word processor can be used, but a program like *Professional Page* comes with genres that can create many popular types of labels, all you do is fill in the boxes.

Professional colour work

By this I mean full colour printing, magazine production and so on; delivery a job for the desktop publishing program. This requires support for Pantone, catalogue colours, separations and lots more flags and functions. I'll go into this lot next month when we look at real desktop publishing where you can create the document on your Amiga and then have it printed on a printing press. ■

Larry Wickham



Sound Lab

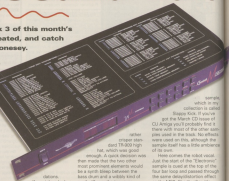
Find out how track 3 of this month's CD edition was created, and catch up with Dex and Jonesey.

If you have the CD edition of this month's *CU Amiga*, you'll find two audio tracks on the disc as well as all the usual software. These can be played on any normal CD player – you don't need a CD-ROM drive to hear them. Track 2 is called *Catapult*, a tune written and recorded by myself for the sole purpose of making people jump around like raccoons at house and techno clubs. For the benefit of all of you with similar aspirations, this month's *Sound Lab* concentrates on how the track was put together, from conception to CD duplication.

The conception

As is often the case, the original idea for the track was rather different to the tune that I finished up with, but the basic theme still survived. Most musicians tell stories true ones at that about how they had piano lessons when they were a kid and could play the notes when they were still in nappies. Not me, although I did get a *Cosmic Tone* for Christmas once. So with this in mind, inspired by a couple of very simplistic techno records, I decided to have a crack at banging out a tune that mimicked simplistic melodies with an equally simplistic beat, but give it all a happy, bouncy kind of vibe.

So that was the general idea, and it was time to lay a few four-



datums. If you take a look at the list of gear that was used to make the track, compared to a single Amiga and a stereo it might look fancy, but by the standards of music studios it's still quite rudimentary. Most of the equipment is fairly low-end (8-bit samplers, entry-level mixer, hi-fi monitor speakers, one 16-bit effects unit...) and if you use a lot of lowered gear together, you run the risk of everything blaring into a mass of noise. One way to avoid this is to keep each element of your music very clearly defined in its role. In other words, keep it simple – don't saturate any particular aspect of the overall sound.

Bearing this in mind, I thought it would be nice to reassured that scratchy old bass drum/open high hat loop that graced many of the early house records, especially as that banger open high hat can really cut through the mix, on a big club sound system in particular. Short of time and resources, I ended up with a compromise of a scratchy old bass drum and a

sample, which is my collection is called *Staggy Kick*. If you've got the March CD issue of *CU Amiga* you'll probably find it there with most of the other samples used in this, although the sample itself has a little ambience of its own. Here comes the solid vocal. Just the start of the "Electronic" sample is used at the top of the four bar loop and passed through the same digital distortion effect as the M58. Shortly after, it's played right through with a slightly crude real-time time-stretch effect using my old favourite "Sample Effect" command (number 16). This sample is played on the four bar loop and passed through the same Amiga channel as the baseline, which was not to be passed through the effects, so the Effect Send knob had to be turned back to zero once this part was over.

Blow by blow

Moving roughly from the start of the track to the finish, here's an explanation of how each of the parts were made.

The gloopy intro sequence comes from the Cheers M58 analogue module, triggered as a MIDI instrument from within the OctaMED song. The mono M58 sound was treated with a combination digital distortion effect handled by the Yamaha FX500 via the Effects Send controls on the mixer. The FX500 has a mono input and a stereo output with automatic stereo bussing on most effects, which is excellent for adding movement to what would otherwise be a rather plain sound. Tweaks were made to the filter cutoff and resonance controls to sweep it up and down for the intro.

Next up it's the bass drum. This is just an old 8-bit bass drum

sample, which is my collection is called *Staggy Kick*. If you've got the March CD issue of *CU Amiga* you'll probably find it there with most of the other samples used in this, although the sample itself has a little ambience of its own.

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In comes that high hat, followed by an additional high hat loop which also includes a little extra percussion. If I remember correctly, the baseline comes in next and it all starts jiggling along and getting into a bit of a groove.

Once that bit has run its natural course, in comes that quacking synth riff supplied by the BaseStation. A bit of real-time knob-twiddling was employed over the next few bars to give it more character, once again the cutoff and resonance controls were mainly used. Just at the point before this riff comes in, the FX500 was switched from the dis-

Post!

Do you A&R for a decent record label? Wanna sign up this track for a proper vinyl release? If so, contact Tony Morgan on 0171 872 8788 during office hours and we can talk turkey.

Wired World

This month's Wired World makes a return to the HTML tutorial to cover the advanced technique of Frames.



When it came to the conclusion of the Wired World HTML tutorial when we reached Tables. Since then the Amiga web browsers have come along steps and bounds with few on the way those supporting souped-up Frames. So it's time for a revival of the HTML tutorial to show how to use Frames for your own Internet or disk-based web pages.

Northern Light and Internet 1.1 have given Frames support and AbleIT's is due any time now. Virtually all PC and Mac browsers also have Frames support. All of these are commercial browsers so if you want the best browsing on your Amiga, a purchase of at least one of these browsers is essential. Incidentally, we'll be reviewing them all head-to-head in the next issue of CU Amiga.

Justifiable Frames

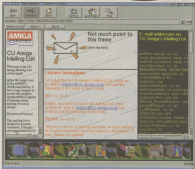
So just what are Frames? Frames allow multiple HTML documents in a single window, unsurprisingly in their own "frames". This helps solve the "infinite long document" syndrome as navigation bars can permanently reside along one edge of the browser window.

There are plenty of other uses for Frames. The easiest way to discover them is to use one of the new browsers to surf the web; in so doing you'll see plenty of examples. From the outset it's clear that many sites over do it and considering Amiga screens can be quite small at 640 x 256 or so, we should be conservative in their use.

A frame document has no BODY tag at all. This is a major deviation from a standard document since the BODY tag normally starts the page after defining colour and background (pattern etc.). The difference is that our Frame document doesn't have any content at all, it simply defines the frames and points to where separate documents which will have the content for each frame.

Let's look at how to place a simple static banner at the top of the screen. A Frame document takes the bodyless form as follows:

```
<HTML>
<HEAD><TITLE Frames Page</TITLE>
<FRAMESET>
</FRAMESET>
</HTML>
```



▲ Here's an extensively framed up example of our HTML tutorial. You would hope that the web browser would be more conservative in their use!

This is the basic structure of a Frames page, obviously the hard bit is the syntax for the FRAMESET tag which we'll be using. In fact it only has two attributes, ROWS or COLS. This defines whether the frames will be vertical or horizontal. In our case we want a Frame at the top of the screen, say 68 pixels high and another frame to fill the rest of the space. For this we would put the attribute ROWS="68, *". This * means that the size isn't specified so it will use the remaining space.

Defining Frames

Inside the FRAMESET tag we then need to define the Frames themselves. We want two, in this case so there will be two FRAME tags. These match the values separated by commas in the ROWS attribute earlier. There's a few

attributes for the FRAME tag but we'll just list the name and source HTML in this example.

```
<HTML>
<HEAD><TITLE Frames Page</TITLE>
<FRAMESET ROWS="68, *"
<FRAME NAME="Top Frame"
SRC="top.html"> <FRAME NAME="Body
Frame" SRC="body.html"></FRAMESET>
</HTML>
```

With this example we have the basics of frames. The first FRAME statement matches the 68-pixel height ROWS element in FRAMESET. The second has "*" so it will fill the rest of the window. The FRAME tags now have the name defined and most importantly, the name of the HTML documents that will fill the



▲ Here's a two-frame page; the source code displayed externally shows the FRAMESET definition of two horizontal frames.

specified frames. To see it in action, all we need to do is create two really basic HTML documents and save them as `top.html` and `body.html`. They're exactly like any normal HTML document, apart from the fact that you leave out the `<HEAD>` tag.

Let's test how far you can take Frames; it's possible to nest FRAMESET tags inside other FRAMESET tags, as in the following example:

```
<FRAMESET COLS="25%,**">
<FRAME SRC="body.html">
<FRAMESET ROWS="50%,**">
<FRAME SRC="top.html">
<FRAME SRC="body.html">
</FRAMESET>
</FRAMESET>
```

What we've done here is specify an initial FRAMESET with COLS (horizontally) and use 25% of the frame instead of an absolute value in pixels. Next the subnested frame is defined with the first FRAME statement and pointed to `left.html`. Now instead of a simple FRAME statement for the remaining frame, here's another FRAMESET tag. This lets us define further frames inside the frame defined in the first FRAMESET tag.

This FRAMESET tag is our earlier one, defining a top frame 85 pixels high and another frame to fill the remaining space. It does as it did before except we have a frame 25% of the screen down the left. See the screenshot above right for the results.

FRAMESET attributes

There are some other important attributes for the FRAME tag. Here's a list of them:

SRC="url"

The SRC attribute takes as its value the URL/path of the document to be displayed in this particular frame. Frames without SRC

attributes are displayed as a blank space the size the frame would have been.

NAME="frame_name"

The name of the frame is useful so that it's possible to TARGET new data to this frame by name. See TARGET later.

MARGINWIDTH="value"

The optional MARGINWIDTH attribute is used when the document author wants some control of the margins for this frame. If specified, the value for MARGINWIDTH is in pixels. Margins can not be less than one (so that frame objects will not touch frame edges) and cannot be specified so that there is no space for the document contents.

MARGINHEIGHT="value"

The MARGINHEIGHT attribute is just like MARGINWIDTH above, except it controls the top and bottom margins instead of the left and right margins.

SCROLLING="yes|no|auto"

The optional SCROLLING attribute is used to describe if the frame should have a scrollbar or not. Yes results in scrollbars always being visible on that frame. No results in scrollbars never being visible. Auto instructs the browser to decide whether scrollbars are needed, and place them where necessary.

NORESIZE

The optional NORESIZE attribute has no value; it is a flag that indicates that the frame is not resizable by the user. Users typically resize frames by dragging a frame edge to a new position. Note that if any frame adjacent to an edge is not resizable, that entire edge will be restricted from moving. This will affect the resizability of other frames.

Here's an example FRAME tag:

```
<FRAME NAME="test" MARGINWIDTH=10
MARGINHEIGHT=10 SCROLLING=NO
NORESIZE>
```

There's another tag called NOFRAME&S for browsers that don't support them. A Frames capable browser will skip over the contents between `<NOFRAME&S>` and `</NOFRAME&S>`. So a special bit of HTML might read:

```
<NOFRAME&S>
This page uses Frames! You are
using a frame challenged browser,
please get Voyager-95 or Netscape.
</NOFRAME&S>
```

Targetting Frames

Lastly, the most advanced feature of Frames, is the ability to target new data to any of the frames we've set up. This relies on the NAME attribute in a FRAME tag so that the frame can be referred to later. Here's an example:

```
<A HREF="new.html"
TARGET="body">Click here!</A>
```

If our initial FRAME definitions have a frame called 'body', we have an interesting result when the user clicks on the 'Click here!'. The data `new.html` will be loaded into the named frame. This is extremely handy as it allows changing the content of any of your frames without reloading in a new load document.

W3CET can also be used in FORMs and also Client Side Image Maps. Just place the TARGET="window_name", where NAME="window_name" is the same on your FRAME definition, after the HREF="url" attribute. If you don't specify a target window, the new document will be loaded in to replace your framed up page altogether. ■

Max Beetham



Net God speaks

As many of you will know, CU Amiga's web site has been overhauled. It now requires a modern Frames capable browser, and sadly we've seen a few complaints.

Considering that Voyager-NG and IBrowse 1.1 support Frames and shortly AMWeb 3.0, what is the problem? There's even a demo version of Voyager-NG at

<http://www.vapor.com> with Frames. Is it that a really good web browser on the Amiga isn't worth the asking price? Of course it is, and this Net God is certainly happy that Amiga browsers have reached this level with nothing but good prospects for the future. It's about time Amiga browsers stepped up a gear, so let's start using them and supporting them!

CU Amiga's new Web site
You could be forgiven in thinking that we'd forgotten about the CU Amiga home page. A number of factors contributed to the delays in updating it. However, we've now totally redesigned the site and it's bigger and better with a promise of regular updates and guest material every month. Do you need another reason to point your browser to <http://www.cu-amiga.co.uk>?

CU Amiga's new Web site

The site will expand further in the coming months and we'd be most grateful for comments and suggestions. Please mail them to webmaster@cu-amiga.co.uk.

The new site requires a frames capable browser and was specifically engineered to look the best on Voyager-NG and IBrowse 1.1. As of going to press, AMWeb 3.0's release was imminent. Beta testers of Allweb 3.0 reported that it also works well with CU's site. Next month we plan to round up the Amiga's top three browsers in their latest incarnations and put

them head-to-head in a grunting review.

Netconnect released

Active Software's Netconnect package may as well tout Netconnect. We're not being nasty by that, it's just that the package is based on all of Vaporware's excellent shareware. (The Voyager-NG WWW browser, Microsoft's mail/news client, and FTP client are all there as well as AmTether, AmFinger and AmLink. All of this software is the full registered versions and since they are all MUI based, the unregistered MUI is also included. It's some surprise that given the MUI bias, Maxis wasn't chosen for the TCP/IP stack to round off the package.

Instead a new version of AmTCP called v4.5 'dialup' is provided. Capped off with a front-end GUI to configure the system for a range of LAN, GPs, and AmTCP's configuration complexities are bypassed, Netconnect sells for £49.95 and a demo is available from Active Software on 01223 362286. <http://amiga.com/active.com/netconnect/>

Finally get Woodoo

Finite Development, developers of the forthcoming Final Web Cruiser, have taken over Dams Adventure's Woodoo E-mail client. Main members of Finite Development, said that they intend to bundle a light version of the Woodoo package with their 'Finite Web Cruiser' browser when it is released. This would seem to hint that Finite



▶ The new Web site is all in play. Beautiful, isn't it?

Development intend to develop the functionality of their forthcoming browser package further than simple browsing. Woodoo was released in Amiga Technologies' 'Surf Pack' in December 1995, supporting MIME binary encoding and POP button in a GUI environment for the first time on the Amiga.

Pagemanster HTML creator

CultureShock, a Seattle, Washington-based Internet and multimedia company, has released a commercial Web page generation tool called Pagemanster 1.0. Some of the boasts that the package lays claim to are: no knowledge of HTML required, digital voice narration as online help, use of favourite graphics applications from within Pagemanster, storage of external links for later retrieval and the Forms Wizard which generates HTML Forms by just a few clicks of a button. The US\$49.95 (+ US\$5.00 P&H) package is detailed in full on CultureShock's Web site at:

<http://www.culture-shock.com/cshock/>



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REALITY, THE ULTIMATE SOFTWARE CONSTRUCTION KIT is a REVOLUTIONARY new product from B.F.M. PROMOTIONS, a company involved in the AMIGA software market for over five years. This product is a BREAKTHROUGH in software design and allows any one with an AMIGA computer, regardless of their age or intelligence, to create both Public Domain and Commercial software products in virtually no time at all using nothing more than their computer's mouse! It can be used to create games, demos, educational software etc. Much much faster and easier than ever before. Throughout the history of computers! REALITY is the nothing you've ever seen before on the AMIGA. Proof for the first time you can create the awesome power of your computer with total ease and use it to create TOP CLASS AMIGA software in less days by doing nothing more than clicking the buttons on your mouse or moving the mouse cursor around the screen - that's it! It's so easy you will not believe it! No programming is required whatsoever!

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- Add text messages to the software with hundreds of different styles of text fonts to choose from!
- Create Super Intelligent GIANT and level and end of level monsters just like the very best commercial games!
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ALL AMIGAS

FAQ

Frequently Asked Questions

Power problems: too much hardware, not enough watts?

CU Amiga can help.

■ Q. What size system can I power without resorting to a new power supply unit?

■ A. The answer to this question depends on so many factors: the individual PSU, the individual peripherals attached, how lucky you are... In general, you should start to consider upgrading the standard A1200 PSU if more than a hard drive and accelerator card is fitted. For example, if you have a SCSI interface, external floppy disk drive and a video digitiser as well as a hard drive and accelerator, you are pushing your luck.

Some CD-ROM drives don't have their own power supply, and borrow power from the A1200. In these cases I would definitely consider getting a new PSU. In general, the more you have hanging off your Amiga, the more likely it is that you will need to upgrade your PSU for reliable operation.

■ Q. How will I know that I need a new PSU?

■ A. Some of the symptoms of an over-stressed PSU include: the smell of burning, a very hot PSU unit, malfunctioning peripherals and unexplained crashes. If your Amiga crashes regularly, even when you aren't touching it, this could be a power problem.

■ Q. How can I be sure my Amiga is crashing because of a power problem rather than anything else?

■ A. Try using it with different combinations of all your most power-hungry peripherals, such as hard drives or external drives. Try to rule out individual components of your setup. If the Amiga still crashes, it could be a problem with the Amiga itself, such as an overheating problem related to the processor or other chips.

■ Q. Can I use an A500 PSU with my A1200?

■ A. Yes, this one is pretty fun to compare. The A500 PSUs seem to provide more power than those supplied with A1200s, and they are therefore worth trying. A500s can be picked up for a few quid these days, and the PSU and mouse can be used on an A1200. A500 PSUs are definitely colour, because they become as grubby with age and much heavier.

■ Q. Can I use an A500 PSU with an A1200?

■ A. Yes, although these PSUs seem to be even lighter and lower-rated than those supplied with the A1200. They are therefore a bit of a test case.

■ Q. My PSU makes a faint ticking noise when it is switched on, but not connected to my Amiga. Is this normal, or is it going to blow up?

■ A. Well mine does it too. I don't think it's a good idea to leave it plugged in and switched on with no current being drawn, so don't try it.

■ Q. Can I use a PSU from a PC?

■ A. Yes, although you will have to sort the wiring out yourself. This can be tricky, not least because the Amiga has a non-standard power connector which is difficult to get hold of. You can of course use the one from your existing PSU, use a multimeter to check the voltages very carefully. You will then have to find some way of housing the PSU, as most are not designed to be used outside a PC case. We covered some aspects of this, with wiring details, in part two of our tower conversion feature in the May issue.

■ Q. Will a tower system help?

■ A. Yes, as most tower systems include a separate PSU. Some tower systems are really only empty PC cases for you to house hard drives and CD-ROM drives. However, they come with a PSU which will save your existing Amiga and from getting too hot and bothered. True tower systems which re-house your entire Amiga should definitely come with a new PSU.

■ Q. What happens if I get a PSU which has less power than I need?

■ A. The power rating (in watts) describes the maximum power which can be drawn, not the power which is supplied. The Amiga and its components will only draw the power that it needs. However, you must make sure you are providing power at the right voltage level. Mess up the 12 volt and 5 volt lines and it will hurt more than your Amiga's feelings.

■ Q. Where can I buy a new PSU?

■ A. Replacement and new, up-rated power supplies are advertised by various dealers (see the box below).

■ Q. Can I run the Amiga on batteries instead of a PSU, to make it portable?

■ A. You can try, although ordinary dry batteries (as used in torches, Camcorders and so on) won't last long enough to be useful. You might have more success with the batteries designed for use with laptop computers. However these are expensive. The Amiga was never designed to be battery operated, and its chips are greedier than those used in laptop computers.

■ Q. Do I really need to switch everything off before disconnecting leads for monitors, printers, mice and so on?

■ A. Yes, but if you don't you run the risk of damaging your Amiga by destroying a chip such as one of the DRAs. These are not easy to source or replace.

Julie Kennedy

UK dealers stocking PSUs

Company	Telephone
Power Computing	0124 811688
Amlogic Computers	011 585 1675
Fast Computer Centre	011 231 8844
EyeNet	0442 333 186
Reel	0332 527181
Seal	058 348541

Logos, meanings and mysteries:



CD-ROM games, ParMPT and various other CD-ROM-related problems.



All about expanding RAM, operating systems and processors.



Plug-in hardware of any kind: printers, disk drives etc.



Answers to queries on particular pieces of software.



Music, sampling, MIDI and anything that makes a loud noise.



Miscellaneous tools to keep your Amiga running smoothly.



Form feeds, page breaks, preferences and lots, lots more!



Monitors, TVs, modulators, screenmodes and all that stuff.



Flasks, sprites, animation, pictures, in one small word: graphics.



Spreadsheets, databases, databases, accounts...



Everything you need knowing about the Internet.



Not everything fits into a pigeonhole, but anything you like fits in here.



Whatever the level of your technical problems, put them to our experts and we'll do our best to sort you out. Remember to give us as much info on your systems and problems as possible to help us help you.



Say goodbye to these chess-a-rama intros, they're going next month, we promise...



... thank God for that, I've been getting ribbed about these damned things for years now!

Where next?



My brother and I have bought a basic A1200 for a couple of years and we would like to expand

our system to accommodate better games. We would also like to install word processing and spreadsheet software. What should we first purchase be - a hard drive, extra RAM or a monitor?

Graham Wright, Glasgow

Of the three you mention the monitor is the least important. It will allow higher resolution screen modes, which is not important for current games but makes word processing and spreadsheets a lot nicer to use. A few few programs are happier running with more. For A1200 in place, but get an accelerator plus memory upgrade - the difference is not as marked these days. Hard drives are essential for software such as word processors and spreadsheets, and running multi-disk games from a hard drive is a million times nicer. As for the hard drive first - you'll find you can fill any size in time but 170 or 340mb will suffice and can be obtained very cheaply. There, as soon as you can, get a low end accelerator with 640K RAM. Power Computing are doing one for £99.95.

Sample dump?



Some of us can't afford CD writers or sound cards, so I have a few questions about Octamed SoundStudio.

1. Can you save a 16-bit WAV file to disk even though it is a full song?

- Can you take this file into a studio so they can load it into a PC and record it to DAT?
- Can you load 16-bit stereo samples?
- Do you think you could put audio sound samples onto the cover CD or put samples on disk for those of us without CD-ROMs?

Barry Walker, Livingston.

- The question doesn't quite make sense but... yes, you can save (record) a whole song to disk as a WAV sample, by selecting the Disk option from the Mixing Options panel.
- Yes, as long as you have the WAV file on a hard drive or other medium (such as a Zip drive) which can be read by the PC. The drive will need to be formatted accordingly.
- Yes. SoundStudio can load save 16-bit WAVs, MP3s and MacOs, plus MP3 and 16-bit MP3s automatically (it knows which is which) and also auto up different types within the same song.
- Putting audio samples on the CD is a very good idea. We'll see what we can do.

A nice package



I, I have recently bought an A1200 with an Amiga 486 upgrade and would appreciate

some advice. Being an artist, I was amazed at the graphical capabilities of the Amiga and would like to combine some animation demos with both music and sound effects. What software packages are the best for these specific uses?

2. Would I benefit from having a CD-ROM drive?

- Creating Studio by Marco Tzipfels is very easy to use, does the job easily. Studio is a bargain for the all features for. Check a PD library. Alternatively StudioPro by Andrew MacKie is incredibly powerful but harder to use, more expensive and very big.
- Your first priority is a hard drive. Trying to do animations is very taxing on floppy, and you'll have trouble using a CD-ROM drive with a hard drive. A CD-ROM drive will be incredibly useful however. For example our cover CD that month actually has both the above packages on it, along with hundreds of megabytes of pictures, animations, image processing software, graphics utilities, clip art etc.

Dumb salesman



I have an A1200 with a 320 watt PSU, a 1Gb hard drive, and a 160K RAM card with an FPU. I type

your piece on CD-ROM drives and want to know where to get one. I tried PC World, and even though I showed them the list of compatible CD-ROM drives in the September edition, they told me they won't work on an Amiga. So where can I get myself a cheap CD-ROM drive?

Ed McCann, Belfast.

Wherever it was at PC World who told you that drives *won't* work on Amiga, and was *giving* you off with false information instead of *advising* their ignorance. This is far too common in electronic goods sales... All the drives in the list *will* fit, as does every 100% ADAPT CD-ROM drive.

Save my cat!



I am a relative newcomer to the Amiga and have this far managed to get along quite nicely in the bottle

to get to grips with the machine via a policy of dogged determination and endless taking time to study the manuals (good man!) - Andrew. Despite this I have come across a problem which has me looking the cat. Please help if only for the cat's sake!

All I want to do is install some computer graphics fonts to my Amiga disk so that I can use them with your excellent Design Works cover disk. Whenever I use the installation tool, however, it refuses to work. It does nothing more than let me type into the text gadgets, neither can I access the on-line help, not, as the manual instructs, "...select OK..." as there is no OK button to select!

As a newcomer my machine is not yet expanded, although I have managed to install Magic Workbench and one or two other things such as a virus checker. In order to do this, I have had to delete some stuff from the Workbench that I don't use. Have I deleted something crucial to the operation of installation? This surely isn't the case as I have even tried using my original Workbench disks and am no longer having CD fonts in Design Works. I can't help thinking I have missed something and have prompted the cat a good hefty kick at my end when I get to the bottom of this. Should you decide to solve this problem for me I shall send you images in chocolate and... (we can't print that) - Andrew.

Andy MacDonald, West Lothian.

I am puzzled. I can't find any reference to "...select OK..." in the manual, and the help is built in and should work straight off! The purpose of *InstallFlow* is to convert CG fonts into images of a greyscale also in some space, but it's not actually necessary for using outline fonts with DesignWorks and similar packages.

Design Works, in common with most packages, will simply link for a volume - either a floppy disk or an Amiga on your hard drive - called fonts, and get its fonts from there. Install your outline fonts in a separate floppy and name that disk "font" and you can use that without deleting from your normal fonts disks. You will find that most public-domain libraries will not delete full

of outline fonts which are ready to go, and this is probably your best solution in the short run.

The purpose of *InstallFlow* is to convert CG fonts into images of a greyscale also in some space, but it's not actually necessary for using outline fonts with Design Works and similar packages. Each font comes with a directory, and files called *name.dir* and *name.font*. If these three things are copied to your font directory, Design Works can use the font.

Runaround...



In my efforts to keep the Amiga flag waving in Singapore (where I have recently moved from

Canada), I have upgraded my A2300 to serve not only as a word processor and games player but also as world wide web browser and multimedia creator. I have an A2300 with a Viper A2300, 8MB of RAM and a Surf Squirrel connected to a CD-ROM and Zip drive.

1. My accelerator gives off quite a bit of heat, making the whole top floor area hot. Is this normal? Should I do anything about it?
2. The machine will not boot when I plug the Surf Squirrel in. Instead it goes through some kind of endless runaround, attempting to boot Workbench on the hard drive, failing, rebooting, going to the hard drive and so on. If I plug the Squirrel in after boot up, everything is fine though. Does this sound like a termination problem? I have the Zip as the test drive set to terminated.
3. I have had some problems with the Zip drive, both on the A2300 and on my A2800 system. It is unreliable, giving read errors, and when I get a loud clacking noise while the yellow light flashes, for what seems like eternity. Does this sound like a defective device?

Yvonne Marlowe, Salisbury.

Yvonne Marlowe, Salisbury.

1. 8MB accelerators normally run hot. Unless your machine crashes a lot, this is not a problem, but I can only help to cool things down. Passive heat sinks don't hurt for a fan or even a junior office CPU cooler would be better.

2. The most likely answer is that there is something wrong with the way your drives are set up. Make sure the CD-ROM and Zip have unit numbers which are different from each other and greater than 1 (I and 0 are used by MS-DOS drives such as your internal hard drive) and that the numbers you configured

them with in software are matched to the numbers they are set to in the disk of the drive. Also make sure that they both have a lower boot priority than your hard drive (remember low rather a high priority and vice-versa).

3. It does sound as if it is probably faulty. Check it on an entirely different set up, such as a colleague's PC, just to make sure it isn't your software setup which is at fault.

Crash!



For Christmas I received an A2300 RAM board with a 4MB V2 pin SRAM and a 286MHz CPU.

After installing it correctly, I tested it by playing Worms, but to my surprise worms froze on my second game. I loaded it again and the same problem occurred. I returned the board and received a new one, but the same problem occurred. I sent the board back again in case I had the bad luck of receiving two damaged boards, but still the problem occurred. I have an A2300 with an internal hard drive, an external floppy and the Catalyst RAM board.

Sean Crooks, Cleveland.

It's worth checking the placement of the SRAM in the RAM board. If it is a little loose, regular crashes are bound to result. Make sure that the chips are holding it properly in position. However the most likely answer is the old curse of Commodore, the uncorrelated power supply. The internal hard drive, the external floppy and the RAM board are all drawing power from that poor little Amiga power supply, and the chances are that it just can't cope. Try unplugging the external floppy and see if the problem goes better or goes away. If it does, then replace your power supply with a bigger one. The Wizard Development (tel. 01252 327886) Powerline supplies more power than you could ever need for C64/65, so get one of those and your problem should be over.

Corrupt pics



1. I have been using Imagine 3 and now 4 since you gave it away on your recent disk/CD-ROM.

and am just getting the hang of it thanks to your wonderful tutorials. The boys in the office have just got brand new Pentium PCs for CAD/CAM and have asked me to render a 3D backdrop for Windows.

I have rendered two scenes but when I load them into ImagineFX 1.5, another corrupt and only part of the picture is loaded, although they load OK into Farnsworth. It is only Imagine pictures that I have trouble with, but not all of them. Have you any idea what is wrong?

2. On a spring clean of my hard drive I had a look at RAM 51W and found a lot of prefs for programs I have tried from cookbooks and have deleted. How can I delete them and get a little RAM back?

3. Will PC multimedia speakers work on my A200?

Colin Baker, Kent.

1. Farnsworth is likely to cope with certain images that ImagineFX can't, especially if you have a menu up in that version of Farnsworth. However, the ImagineFX convert should load anything that Imagine 3 or 4 produces, as I support your installation of ImagineFX. Just do something. Make sure that all the files in the ImagineFX/multimedia/renders are there. The other possible cause of trouble is the *IFF* Prefs library - make sure it is in your Libs drawer.

2. You will find the archive for these files in the *prefs/multimedia* directory of your system disk/low partition. Just delete them from there and they won't bother you again.

3. Yes, but they come with a small stereo jack socket, so you will need a simple cable to connect.

How to write to Q&A ...

You can send your technical problems (or answers - Ed) to Q&A Amiga by the following means:
By letter to Q&A, Q&A Amiga Magazine, 20-26 Mill Lane, Isle of Dogs, London E14 9LE.
E-mail: Q&A@Q&A-Amiga.co.uk

We can accept letters as text files on floppy disk.

PLEASE DO NOT SEND S&Ms. We regret that we cannot respond to queries directly, by post or over the phone, only through the pages of the magazine. We appreciate that some queries need quick answers, but we simply do not have the time to answer every query we get. S&Ms go straight in the bin, so please save your stamps!

Masterclass

Perl is tipped to be the next big thing in programming languages, so what can it offer us Amiga users?

This month we're going to look at something a little special: a new programming language. The language is "Perl", and if you haven't heard much about it already you will soon. Perl was developed by a gentleman called Larry Wall, and it's proving extremely popular with all sorts of computer users. Perl is said to stand for "Practical Extraction and Report Language", although it seems to be one of those cases of the name coming before the acronym. If you prefer, Perl can stand for "Pathologically Eclectic Rubbish Lister".

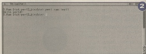
Perl is many things. It's a scripting language a little like APress, and it's terrific for developing scripts which need to perform common, but tedious, file maintenance tasks. Like APress, it's also a great language for gluing other applications together, and expanding their features. For example, Perl is currently enjoying favoured

status as the most useful language for Internet applications. When you visit a web site, it could be a Perl script which runs in the background and provides new facilities and functionality. In particular, Perl's ability to process text strings and extract vital snippets of information makes it ideal for dealing with everything from URLs, addresses to files of statistics and data.

Perl necklace

Perl is closely linked with the Linux operating system. Linux is a free UNIX clone available for all manner of systems, including 680x0 based computers like the Amiga, and Intel based systems like the PC. Like Linux, Perl is freely distributable and maintained and updated via a loyal gathering of users on the Internet.

The good news is that Perl is available on the Amiga, and not only that, but the most current release is the widely respected Version 5,



ported by T. Rakušan. You don't have to be running Linux to use this port as it is designed to be run under AmigaDOS - made possible because the C source code to Perl is available.

The bad news is that a Perl program looks rather different to any other programming language you may have used before. A particularly confused program may look as though your cat has walked over your keyboard. It's a little like C, a little like other UNIX shell scripting languages and a lot like gibberish. It soon starts to make sense though.

Where to get it

Amiga Perl can be obtained from the Amnet. The file you are looking for is "Perl5_002bin.tgz". There is an associated file called

"Perl5_002src.tgz", but you are unlikely to need this unless you plan on re-compiling the Perl programs yourself. You can either download this file, or find it on the Amnet CD-ROM series. I located it on disk "C" of the Amnet compilation Set 3.

You might find that you need one or two other files and libraries too, depending on which features you plan on using. If you have installed some Internet tools you could find that you have all you need already, but be prepared to look around for extra files.

Using Perl

A Perl program takes the form of a plain text file, in the same way that an APress file is a plain text file. You start a Perl program by using the command "perl" followed by the program name (again, this is of the APress command "tr"). Before your program runs, you may get an error about temporary files, so enter the following at the shell:

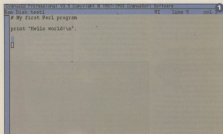
```
assign tmp: ram;
```

Now you are ready to enter your first Perl program. Using your favourite text editor, enter the following text, and then save it to RAM Disk. See fig 1.

Because the fictitious "Hello World" text printing example. Predictably, it doesn't do anything exciting, but it's traditional.

Already you know a few things: comments follow hash marks, lines end in semi-colons and "tr" means take a new line. See fig 2.

That's the hard part over with. If you can get this program working, you have successfully installed Perl and managed to create a suitable test file. You now



▲ The assertion bar that states "Your first program in any language must print Hello World to the screen" also applies to Perl code.

use all the tools at your disposal needed to become an expert in Perl programming. In fact, you don't even need the articles, as Perl's copious amounts of documentation included with the *Angie Perl* perl and more available in the Internet.

However, here are a few more real pieces of information to help you get started. After you have tied these, look to the other documentation.

Simple programming

Variables in Perl are, well, different. You might be used to defining the "type" of a variable, but Perl isn't really to know if it's a single one (such as a number, or a string) or a list or a list of such items. The type of variable is known as a "data", and the list is an "array".

If you want to define a scalar variable, you must precede the name with the dollar sign. Don't get this mixed up with the use of the dollar sign to mean a string in a BASIC-like programming language. In Perl, all scalar variables use the dollar sign. Here are some examples of scalar variables: notice how you can mix strings and numbers. (See fig1.)

You can see from this example how both numbers and strings can be added. There is a special "addition" function for strings to add (or concatenate) them together. There has to be, otherwise it would be confusing when you tied something like:

```
$first = "123";
$second = "456";
$val = $first + $second;
$val = $first . $second;
```

Try this program to see what I'm talking about - the difference should be pretty obvious when you print out two variables, "first"

```
$names = ('Alan', 'Brian', 'Charlie'); # Create a list of names
($first,$second,$third) = $names; # Use this list to give values
# to three variables.

print $second; # Print the second name
print "\n";
```

```
$name = "John";
$message = "Hello to you $name I hope you are well";

print "The computer says $message and then stops.\n";
```

Perl scalar variables

```
$a = 42; # First value
$b = 1; # Second value
$c = $a + $b; # Create third from first and second

print $a; # Display it
print "\n"; # Take a new line

$firstname = 'John'; # Create a string
$secondname = 'Smith'; # And another

$fullname = $firstname . ' ' . $secondname; # Create a new string

print $fullname; # Display it

print "\n"; # Take a new line
```

and "list"

Because every variable is preceded with the scalar symbol, it's easy to include the variables within other things. Here's an example (remember - everything following the "\$" is a variable, and the value of the variable will be substituted for it). See fig 4.

When using arrays, you use the "[]" symbol instead of the "\$". Here's an example which creates an array called "names" and then assigns a list of names to it. This list is then used to assign values to other variables. See fig 5.

You can also address elements in the list in a more traditional way, like this:

```
$second = $names[1];
```

The elements are numbered starting with element 0, then 1 and so on.

There are other variable types too: for example, "hash" types which allow you to reference values with strings rather than numbers, like a miniature database.

However, sadly, that's all we really have space for here in this brief introduction. Perl contains all the usual programming language features, and you'll find plenty of commands for loops, conditions

and file handling. You'll find all the details in the test files included with the Perl distribution.

Perl is pretty darn amazing when it comes to pattern matching: it only takes a few lines to remove all the comments from a C program for example. This is possible using "Regular Expressions", but that's a topic which could (and does) fill an entire book.

Perl, Programming and the Internet

With so many computer languages to choose from, does the world really need a new one? Good question, but with new innovations (such as the Internet) there always seems to be a new language coming along to make things easier for us.

CGI (the common gateway interface) is a method of letting Web Servers (the systems which provide Web pages over the Net) execute programs in a variety of languages. Most servers will let you use Perl, or C and the like with Microsoft getting involved in a big way there is now support for Visual Basic. Even Apple Web Servers allow scripts to be written in AppleScript (the version of Alias for Mac).

Don't confuse these languages with Java, JavaScript and ActionX. These languages were created to provide extra functionality at the browser end: the program (or Applet) is downloaded and executed locally. This is why an Netscape browser can happily (and probably unknowingly) run Perl and C CGI scripts, but won't yet cope with Java applications.

Many Web pages make use of CGI (Common Gateway Interface) scripts to perform special tasks, and Perl is an ideal language. If you fancy getting yourself a job working for Internet-savvy companies (not a bad line to be in at the moment), make sure you spend some time getting to know Perl. The master of it in your CV is particularly valuable at present, and that will only increase. ■

John Kennedy

More Perl

For more information, check out the Perl websites at www.perl.com/perl and www.perl.org, and also the many Usenet groups. If you are a computer book person, the definitive volume is "Programming Perl", published by O'Reilly and written by Larry Wall, Tom Christensen and Randall L. Schwartz. ISBN 0-596002-100-0.



Backchat

Make yourself heard: send your views and opinions to Backchat, CU Amiga, 37-38 Millharbour, Isle of Dogs, London E14 9TZ, UK. Or E-mail to backchat@cu-amiga.co.uk

Shifty 50

I was really pleased to see classics like *Conan: Robber in the Amiga* (CU Amiga, April '90 issue) but where do we go to when it comes to Lemmings?

I mean, I recall when this magazine was really commencing its learnings, you even compared your best game ever - Worms - to Lemmings. OK, there's no real relation between a game where you kill everything in sight and where you stop the little things dying because they've got no brains, but Lemmings is a real good classic. What were you thinking of? The phrase "Oh no, no more Lemmings!" seems suitable.

James Tagore, Durham

'Availability' is the key word here. We haven't all the major (and minor) Amiga game suppliers in the UK to make sure all of the games in our Best 50 Amiga Classics Ever chart were all available for readers to buy, so certainly, classics are missing because they were to have totally sold out. Originally planned was a section listing some of these games that didn't make the short list due to the availability factor, among others these include *Frankie*, *Rainbow Islands*, *Interception*, *Carrier Command*, *Thunderbolt*, *Samurai II*, *Dragon Master*, *Super Hang On*, *Puddle Bobble*, *Weylandville*, *Planet Softies*, *Millions*, *Tron II*, *Line City 2000*, *RT-10*, *Viewport*...

There's almost enough there for another top 50! By the way, if anyone knows where you can get any of



these, please let us know and we'll list your fellow readers in on the secret.

Esperanto crazy

During the last few years I have enjoyed the PD pages and often bought games and utilities on the strength of the comments there. However, I think Andrew Korn should refrain from commenting on a subject he obviously knows very little about. I refer to his comments on Esperanto (CU Amiga, April 1997). Esperanto is a language created by Dr Ludwik Zamenhof in 1887. His idea was that everyone could learn Esperanto as a second language and be able to communicate, as an equal, with anyone, anywhere in the world. Growing up in Bialystok, in Poland, he saw that the problems between Russian, Polish and Jewish communities were caused partly by their inability to understand one another and their unwillingness to learn one another's language. He reasoned that, if everyone could learn a common neutral language, no one would be at a disadvantage when speaking with foreigners. It was not a "crazy notion".

Esperanto is not an academic

Go on, get netted!



Letter of the month

turned complicated and full of pitfalls. My fond of my Amiga though I was, it seemed to me that the only seamless way to get on-line was to fork out £1500 for a PC and get the Internet ready version of Windows.

I had access to a PC at work, and was used to Windows, although I don't like it. All the letters and comments you are telling you that Workbench is better are right. An Amiga with a hard drive and a decent version of Copas II still like 3.0, is easier to use than Windows, and less more intuitive.

Eventually, I just talked at parting with the cash, and being a skint at heart decided to try the Internet the hard way: expecting boredom and sleepless nights as I tried to configure the software, and deal with an ISP who thought the name 'Amiga' referred to a cheap Spanish wine. So now to the point...

If you're in the same situation go ahead and do it! It was completely trouble free, took me only a couple of hours to sort, and has transformed my ageing system into a truly remarkable connection to the rest of the world. I now have unlimited access to more software, information, contacts, newsgroups, and other Amiga related stuff than you can imagine. When Bill Gates asks "Where do you want to go today?", suggested Internet, there's no PC equivalent of the same rollers.

So, rush out, get Miami or Temora TCP (they are the easiest, even I got it right), try both Browsers, and Webways (which are excellent, easy to install, and so user friendly that you can read the manual later to tidy up the finer points. Once you're on, you have access to all the Amiga software you'll ever need, for free, or for a small registration fee. Even 20 Mb modems are available for less than £90. Don't tell your Amiga, don't buy a PC, save yourself up to the rest of the world. Amiga.com software is now usable by anybody with even the slightest knowledge of the cream-coloured box under their finger tips!

Richard, Isle of Wight

R.Gosses@enterprise.net

curiosity and 90% of Esperantists do not speak English. If Andrew Korn thinks it is a failure, he should try attending one to the Universal Congresses, held every year (this year in Adelaide), where thousands of people from all over the world meet and talk to one another in Esperanto.

Something Andrew Korn did get right is that Esperanto is very easy to learn: spelling could not

be simpler, pronunciation is regular (each letter has one sound only) and there are no irregular verbs.

I realise this letter has nothing to do with computing in general, nor with the Amiga in particular, and I don't expect you to print it, but I had to write, as ill-informed comment makes me angry.

Brian Withers, Bristol



GATEWAY2000

"You've got a friend in the business."SM

Andrew replies: Before you get too upset, read what I wrote more carefully. When I said it was crazy, I was being ironic, as you should have guessed by the "ironic cracker, everyone ignored him" line which followed. I stand by my other comments - it is a failure in that it has NOT become the league leader it was intended as, and it speaks only to enthusiasts. Expense is indeed very easy to learn, but is also very flawed - better international languages have been developed there, including Japanese - a rationalization of Expense. Remedy? was a greater visionary than he was a diplomat.

Aborted ABox?

OK, everyone else has had their say about the new ABox thing so now it's my turn. The ABox looks pretty impressive but asking \$1000 for it is a bit much isn't it? Wasn't the whole Amiga concept based on easy to use cheap home computers?

Well I don't think \$1000 is cheap if companies are going to charge that! I can see people either sticking with their trusty Amiga or being very stupid indeed and getting a PC simply because there is a lot of software available for it. I think the best bet would be to make a new upgrade to a new Amiga, like they are thinking of with the PowerPC. What companies need to combine is the power/performance of a PC with the ease/multitasking and friendliness of the Amiga. As Amiga users are tired of being ripped around with Eamon and Maffrow. It's time to turn over a new leaf, get a new Amiga out and save us all.

Even if they stick up again the Amiga is going to be the very first computer which will keep on going and being supported. I know a lot of companies have left the Amiga scene but what about Vulkan, Mutation and the newly arrived Telos and JRCOP - they are trying to keep it going so I think we should help them by sending letters and E-mails of thanks and ideas for new high spec games. Also why not dig out those programming books and start making some great stuff for the Amiga and help it along on its

rough journey?

It's time to pull together and join forces. Big companies have made their money and left, so now it's up to us to keep the Amiga going. Any comments on this can be emailed to Coole@Comedy.demon.co.uk.

Chris Seward, emailville.

By now, the Amiga represents a cheap off-the-shelf home computer, but don't forget the likes of the 486dx, 586dx and 686dx and desktop 3.5/286s, which to many are professional creative computers. The first Amiga was the 486dx, which was priced out of most people's reach, but that opened the cheaper 486. Who knows, maybe the same could happen with the ABox. It may be unlikely we'll see a really new "Amiga" released for under \$400, due to the costs of developing and producing new technology. The low prices of the 486 and 486sx were possible mainly because the technology had already been developed and put into commercial production runs, thanks to their respective manufacturers like 486 and 486sx. Still, the fact remains there is definitely a massive potential market for a cheap but capable home computer. Perhaps this is where Gateway are headed.

F1GP Enhancer

I would like to make a quick comment about F1GP from Micropross. I'm very happy that it was listed in your top 50 games (although disappointed that Storm Car Player was rated higher) and would like to advertise to your readers how the game can be improved.

Get F1GP Ed from the Amivat. To a PD library, it allows you to add anything in the game and now comes with datatypes for the 1987 games. If you have an accelerator/Fast RAM you can alter the frame rate - the original game runs at 8 frames per second, but with my 68000 120MHz it runs at 20 frames per second.

Buy a Quick Joy 'joy pedal' from Pioneer Mail Order (£5.95). It makes the game much easier to control - best Damon Hill and Michael Schumacher in Ayrton Senna if you do use F1GP Ed, use

it on back-ups as it writes data to the hard-disk.

Also, referring to the top 50 games, considering Elite 2: Frontier received your highest ever rating (87%), I can't remember seeing it in the top 50 (although I am probably wrong - please ignore this paragraph if I am). I understand that almost a completely different

editorial team made the decision for the top 50 when Frontier was released and opinions differ, but does the Frontier example perhaps suggest that since opinions differ so widely, the top 50 games are not such a wonderful idea as it is so subjective?

Nice idea to have the competition at the end though. Thanks for a great magazine and great CDs (I'm just left here to get CDpos, Print Manager, Mail 3.0 and Voyager on my hard disk). Thanks once again.

PS. I'm studying information/computing at Loughborough University. I am a big Amiga fan and just as big a Damon Hill fan - watch out for the number 1 plate on his Arrows car on March 11th.

Andrew Clarke, emailville

Thanks for these F1GP tips. Check out the first issue for the reason Frontier missed out on the chart. As to whether it was worth doing it or not, with everyone's differing opinions and the magazine's ever evolving staff, the hope is simple and obvious during the early 40s, you know, there is never going to be total agreement and



Elite 2: Frontier

anyway, we live a bit of a debate. Oh yes, can you open the slow log between E-mail and magazine publishing? We seem to remember 200's first mailing wasn't quite the champagne winning performance many hoped for, it just goes to show how far a good Williams thread can get you... into the stratosphere at least!

Quake rocked

I just noticed the Amiga Quake site has been updated - well it's closed actually. I suspect it may be something to do with copyright infringement, but does anyone know better?

J. Preskell, Cyberpace

The suspect right, it seems 3D Software (Quake's creators) have taken a dim view of Amiga Quake (the unofficial Amiga Quake engine) and demanded it cease distribution. Watch this space for developments though.

Amiga flame

I have a wish page you might be interested in. On it I have put two petition forms for visitors to my page to fill in. One is a petition for



Quake, the unofficial Amiga engine demands



Continued overleaf

The game TFX is to be released by DIO. So far I have sent off the first collection of 58 responses to DIO that I have collected over the past two weeks. The other is a general Amiga games petition that will be sent out to as many past and present Amiga developers to tell them to either continue supporting the Amiga or return to the platform. Games like Party Squad, TFX, Inferno, Big Red Adventure (now getting a release - EMI), Sam Tower, etc have been abandoned even though they might have sold well. I am looking for publicity for both petitions as I think they might be some help to the Amiga situation and, if I am very lucky, might even result in some of the games mentioned being finished and released. Would you please let your readers know about my campaign? The web link is as follows:

HTTP://www.cmfj.shi.ac.uk/~cmfj01/20

Ed Collins, Amiga Flame

Where's Graffiti?

Do you have any plans to release the Graffiti graphics adaptor? I am interested in this product, but I am a bit sceptical because of the limited amount of support it has received. I would also like to see some speed tests as I can see exactly how much faster it would be, particularly PCs.

Jay, Info Super-highway

We had actually hoped (and planned) to bring you a review of this compact disc 'graphics card' some time ago, but have not been able to do so because no-one seems to be willing to take on major distribution for it - even those who do do it in their product range seem to be unwilling to send it to us for review. Unfortunately it seems to be a chicken and egg situation regarding software support, with few programs being written to use it. The solution would be for someone to start selling it in a package with some related software, which might be enough to get the ball rolling.

20:20 Cybervision

I got a little worried when I read Matt Besterson's review of the Phase 5 Cybervision 3D board in the March issue. My Cybervision 3D arrived on the same day I read that review. But after installing the board in my A4000, all I can say is WOW! I could not be happier with

this upgrade to my system. I don't know what version of Cybervision he had for the review, but the one I received worked with no adverse effects. He also didn't mention which mode/presentation software he was using. This is a must, and ModePro version 4.18 does a superb job of getting most of the software I have running under Cybervision.

I will agree with Mr Besterson that to get the most out of this board you really need the Scan doubler/double monitor switch. Unless you plan to use two monitors, this little card allows you to run software that can't be promoted to a Cybervision display. Billiards, tennis, and most games fall into this category. It's a sad state of affairs when I can't get my games working. On a side note, it kind of surprised me to read, in the monitor switch manual, that it can be used as a stand alone card. Seems like a cheap way to hook up a PC monitor.

Anyway I love this board. It makes my Amiga run like a whole different machine. I'll bet that if Mr Besterson tried this board with a later version of Cybervision, it might fair better in a review.

Graig Mori, coor@usa.net

The *Cybervision 3D* review was a difficult one, after we asked the subject with Phase 5, would we be sure that the software would be fixed if the time we need to pass? Matt wasn't happy with the product considering it wasn't up to the standards of the former version of the card, or those of Phase 3 in general. Fortunately Phase 5 took heed of the criticisms. We are addressing in the *Phase 3D* review in this issue.

XCAD mad

I'm writing to ask if there are any experienced XCAD users out there who could offer me some technical help or advice on how I can set the program up, as I have been unable to obtain the manual. XCAD users should write to me at this address: Mr Rory McGarrard 11 Lammy Drive Droghda Co Tyrone, BT96 5JB Northern Ireland.

Home truths

A lot of speculation is taking place at the moment, and a lot of people seem to be panicking their hopes on some kind of mass Amiga revival, particularly in the

games market.

In my opinion it's about time a few facts are faced. The Amiga was a great games machine in the late 1980s (I can still remember being amazed by Martin Madness and Defender of the Crown but it has no chance of competing with the current games consoles or top PCs. The games that are reviewed in CU Amiga are laughable when compared to current PlayStation titles. The defence of 'it's playability that's important, not flash graphics' does not fly and large turn out to be the truth. There has been a trend recently to release old arcade games compilations on the PlayStation, but to my horror, the games that I remembered from my youth do not have last-ing appeal today.

I think that the Amiga will survive, but not as a games machine. As a keen gamer I know I would have to upgrade to play better games, but realised that the Amiga fulfilled all of my other computing needs. I therefore decided not to get a PC, but to keep my Amiga and buy a PlayStation. I now feel I have the best of both worlds, a superb computer for the serious stuff, and I can play games that a Pentium would struggle with. Oh, and with the money I saved by not buying a PC I've upgraded my trusty A1200 with a hard drive, accelerator and extra RAM.

Instead of highlighting the Amiga's weaknesses with (real) features like 'The 50 Best Amiga Games Ever' (and wasting five editorial pages that could have been put to much better use - like a bigger Opus 5.11 guide), perhaps CU Amiga could devote its attentions to areas that would persuade a potential purchaser that the Amiga is a worthwhile proposition, like DTF, video, music, 3D graphics, animation, Internet access etc. No sane person would go out and spend £400+ on an Amiga to play Eager! I am embarrassed when a work colleague flicks through my magazine and sees the games section. It just ruins the Amiga's credibility, a shame when a lot of the 'serious' software is of such a high standard.

I think that CU Amiga (and the Amiga market in general) would be greatly improved if coverage of games was dropped in favour of great features like 'Build Your Own Tower', which I thought was brilliant.

Graham Robson, Cleveland

To the Point...

No Go Show

I was somewhat perturbed to read in your April issue that TFX would be on display at the CU Amiga stand during the World Of Amiga Show in May. Sadly, I won't be tempted to visit the show on the off chance I'd actually get to see TFX. Frankly there's more chance of George Best turning up.

**Allan Brown,
Allan@idolfin.demon.co.uk**

ABox pointer?

Hi! Couldn't you put a link pointer of ABox in your magazine? I think it would be nice with some computers on the wall.

Erik Nyland, Mäxmo, Finland

Not idea, I'll see what we can do.

Floppies out

I should like to second Miguel Ramon's view that you should drop the discontinued floppy and only have a CD-ROM version of the magazine. If it encouraged PC owners to upgrade, it should do the same for Amiga owners, and this will mean that we should no longer have floppy-only machines holding the market back.

Ian Bell, Coventry

Funing of Wakefield

In the March 87 issue I was turning to see that the source code to ABox was given away on the CD edition. I don't have a CD-ROM and I don't see why people with disk drives should be left out. There just so close to the Amiga, the only difference is we're not as rich. Could you please do something about this, like have an extra disk on the cover, even if you have to raise the price a little?

J. Seacey, Wakefield

There's a very simple reason why I won't see the floppy edition: it was well over 500KB in size! That's 14 floppy disks, according to our CD-to-floppy disk conversion expert.

Andrew Jones, however, writing as you're in Wakefield, or any place IT, maybe you could pop down to our office with 74 disks under your arm and see if they'll oblige. Well it's worth a try.

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Points of view

We would like to announce... nothing



by Terry Morgan

Who would have thought it? While the likes of VGCorp and QuikPak were shouting about their plans for the Amiga, the low-key camouflaged PC giant Gateway 2000 were waiting in the wings, doing their homework and preparing a bid of their own.

The big question is of course, what plan do Gateway have for the Amiga? It seems at this stage they're not tentatively sure themselves. However, unlike VGCorp and QuikPak, Gateway seem to be taking a more

considered approach to its PFI, perhaps not wanting to be drawn on decisions that have not yet been finalised. Subjected to the kind of pressure the inquisitive Amiga community is capable of, it was predictable that the enthusiastic mouthpieces of VGCorp and QuikPak would divulge plans and goals that they couldn't guarantee would be followed through, especially since neither had actually secured a buyout deal.

While rumours have been very tight-lipped about the whole affair so far, a representative did leak the Amiga acquisition to having a low named 'Stuff', on the basis that something in there would most likely be of use in some way. This is not really what we want to hear, but let's not get carried away - this single comment shouldn't be inflated to the official Gateway Amiga policy. It was a snip answer from a question posed at a non-Amiga related Gateway press conference. It may well be that someone, somewhere at Gateway 2000 knows exactly why they bought it, but wants to see through some plans before any announcements are made. In fact this is the most likely situation. Even a company with a \$6 billion turnover doesn't throw money around

“the Amiga acquisition was like buying a box marked ‘Stuff’, on the basis something in there would be of use.”

as a whim. However, a comment such as that is bound to give the impression that they were simply browsing and thought they'd pick it up on the off chance. In the way a discounted product in a shop window could trigger an impulse buy.

Whatever happens, at least for the near future this development has given the Amiga scene a shot in the arm. Even though we may not be much closer to knowing the Amiga's fate, at least we can now see a path out of the frustrating void in which the Amiga has sat, motionless for the last few years.

On a different note, it was with regret that we heard of the closure of Amiga User International, the UK's first ever Amiga mag, on which I worked for many happy years. Please to Antony Jacobson all the AUI crew for ploughing their particular furrow of the Amiga press. I'm sure you'll join me in wishing them all the best for the future. ■

■ Terry Morgan is
Editor of
Amiga Magazine

The real jewel in the Amiga's crown



by Matt Bottomley

It comes out and says it, the Amiga is a commercial liability if someone was going to make the absolute best application in a genre, they could make it half as good, ten times as expensive and waste a comfortable living on the

PC. Instead, Amiga authors decide they could do better and set out to build The Ultimate Program, TUP for short, for your Amiga.

These authors save away, implementing all of the things Amiga users demand as standard: top-quality installer, APress interface, PFI friendly, multithreaded asynchronous cryptographic executive GUI library front and form hall. That's before they get onto what the program actually does! Then there's the final task of making their TUP getting it beta tested, constantly refining it by spending so much time that their workloads suffer and then final optimising it in an assembly until it's faster than its equivalent on a Quad Pentium Pro 200Mhz.

It's exaggerating of course, to a degree. Bottom line is that while using my outrageously speeded-up PC, nothing is half as good as it is on the Amiga. You know this, I know this, every reader of CU Amiga Magazine knows this. Perhaps even Gateway know this.

“while using my outrageously speeded-up PC, nothing is half as good as it is on the Amiga.”

My belated point is that it's these backyard, overworked and under appreciated programmers who make the Amiga what it is today. It's not the Amiga's hardware anymore.

You're all using, sharing and demoing commercial software, order full versions (from cowards!) and so on. Please consider that not only are these packages worth the (usual) asking price but that there is little more you can do to keep the Amiga thriving than paying for software. You already get so much virtually for free on cowards, so spare a thought for Jeremy that's leaping away at TUP. It just might be the real reason the Amiga is what it is. Anyway, hooray for Gateway! ■

■ Matt Bottomley is
CU Amiga Magazine's
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